



HOUSE OF LORDS

Horticultural Sector Committee

Report of Session 2022–23

Sowing the seeds: A blooming English horticultural sector

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Horticultural Sector Committee

The Horticultural Sector Committee was appointed by the House of Lords on 1 February 2023 to consider the development of the horticultural sector.

Membership

The Members of the Horticultural Sector Committee were:

<u>The Earl of Arran</u>	<u>Baroness Fookes</u>
<u>Baroness Buscombe</u>	<u>Lord Redesdale</u> (Chair)
<u>Lord Carter of Coles</u>	<u>Lord Sahota</u>
<u>Lord Colgrain</u>	<u>Baroness Walmsley</u>
<u>Lord Curry of Kirkharle</u>	<u>Lord Watson of Wyre Forest</u>
<u>Baroness Jones of Whitchurch</u>	<u>Baroness Willis of Summertown</u>

Declaration of interests

See Appendix 1.

A full list of Members' interests can be found in the Register of Lords' Interests:

<https://www.parliament.uk/mps-lords-and-offices/standards-and-interests/register-of-lords-interests>

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All publications of the Committee are available at: <https://committees.parliament.uk/committee/648/horticultural-sector-committee/publications/>

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Evidence is published online at <https://committees.parliament.uk/work/7266/horticultural-sector/> and available for inspection at the Parliamentary Archives (020 7219 3074).

Q in footnotes refers to a question in oral evidence.

SUMMARY

Horticulture, which relates to the production, cultivation and management of fruits, vegetables and ornamental plants, contributes significant amounts to the UK economy.¹ Business, production and food in the UK horticulture industry is worth over £5 billion each year, and the industry employs over 50,000 people.²

Despite its economic contribution, horticulture is widely misunderstood and poorly promoted. Governmental oversight is patchy, and both the professional and amateur horticulture sectors are facing challenging circumstances that could put their future in jeopardy. The ongoing impact of EU Exit combined with the COVID-19 pandemic and conflict in Ukraine has led to an erratic and confusing trading environment that is squeezing horticultural exports and delaying the imports on which the UK relies for food security and ornamental plants. Inflationary pressures have led to a cost-of-living crisis in which supermarkets and garden centres seek to restrict prices to the detriment of growers, who face ever increasing costs. There is no doubt that this is a “pivotal moment for the future of horticulture”.³

Yet throughout this inquiry, we have seen the extraordinary potential of the horticultural sector to deliver on the net zero agenda. The ornamental sector underpins a significant proportion of the Government’s 25 Year Environment Plan; it provides the conditions for an array of biodiversity to thrive, opportunities for natural carbon capture and support for urban landscapes through ambitious greening programmes. As the nation’s diets shift towards an increased consumption of fruits and vegetables, the edible sector can improve domestic food security by reducing reliance on imports and supporting more consumers to buy British. But uncertainty in the sector makes it hard for growers to plan ahead and leads to lack of confidence to invest in essential new technologies to make businesses more efficient and robust, including protecting against climate change, pests and diseases.

The horticultural sector has a significant role to play in delivering on a number of government policies, strategies and plans, but it faces longstanding challenges that have placed barriers in the way of what can and should be a thriving national sector. Key challenges include:

- A lack of cross-departmental working, poor ministerial oversight and the lack of a dedicated horticultural strategy.
- Relentless competition between supermarkets to keep prices low, which squeezes grower returns in the face of spiralling input costs and makes some crops unviable to produce.
- A long-term skills and education gap, leading to reliance on a poorly planned and managed seasonal migrant worker scheme.
- Poor roll-out and communication on the forthcoming peat ban, with a lack of funding into research on alternatives.

1 House of Lords Library, ‘The UK’s horticultural sector, Library Note’, (4 October 2022): <https://lordslibrary.parliament.uk/the-uks-horticultural-sector/> [accessed 18 October 2023]

2 *Ibid.*

3 **Q 21** (Minette Batters)

- Lack of long-term funding for research and development, particularly for automation and robotics, including strategic core funding for key institutions.
- Poor understanding of the mental and physical health benefits of community gardening and social prescribing.

If these challenges remain unaddressed, the “future of UK horticulture looks bleak”; we could see a breakdown in UK food security, and a failure to tackle urgent environmental challenges.⁴ Yet, with the right support, policies and funding, the UK horticultural sector can become a world leader in the sustainable practices and policies that will ensure generations to come can enjoy the full variety of produce grown in Britain.

The Horticultural Sector Committee was appointed in January 2023 by the House of Lords to consider the development of the horticultural sector. As agricultural policy is a devolved matter, our inquiry focused largely on the horticultural sector in England. We held 24 public oral evidence sessions, received 96 pieces of written evidence, and went on four visits. We would like to thank all our witnesses for taking the time to contribute to our inquiry.

4 Written evidence from the Fruit and Vegetable Alliance ([HSI0061](#))

KEY FIGURES

Horticulture relates to the production, cultivation and management of edible and ornamental crops.⁵ This includes fruit, vegetables and salads, bines and vines, and a range of ornamental plants (see Table 1).

Table 1: Non-exhaustive breakdown of key groups within horticulture

Sector	Type	Sub-type	Description
Edible horticulture	Fruit	Top and orchard fruit	produced by trees e.g. apples, pears
		Soft fruit	produced by low growing shrubs and perennials e.g. strawberries, currants
	Vegetables and salads	Protected vegetables	grown in a protected environment like a glasshouse e.g. tomatoes, lettuce
		Field vegetables	grown in the open e.g. roots, onions, legumes
Ornamental horticulture		Pot plants e.g. hydrangeas;	e.g. hydrangeas;
		Flowers and bulbs	e.g. tulips;
		Hardy ornamental nursery stock	can withstand year-round climatic conditions including frost, without protection) e.g. chamomile
		Tree and forest nurseries	
Bines and vines			e.g. vining tomatoes, string beans, clematis

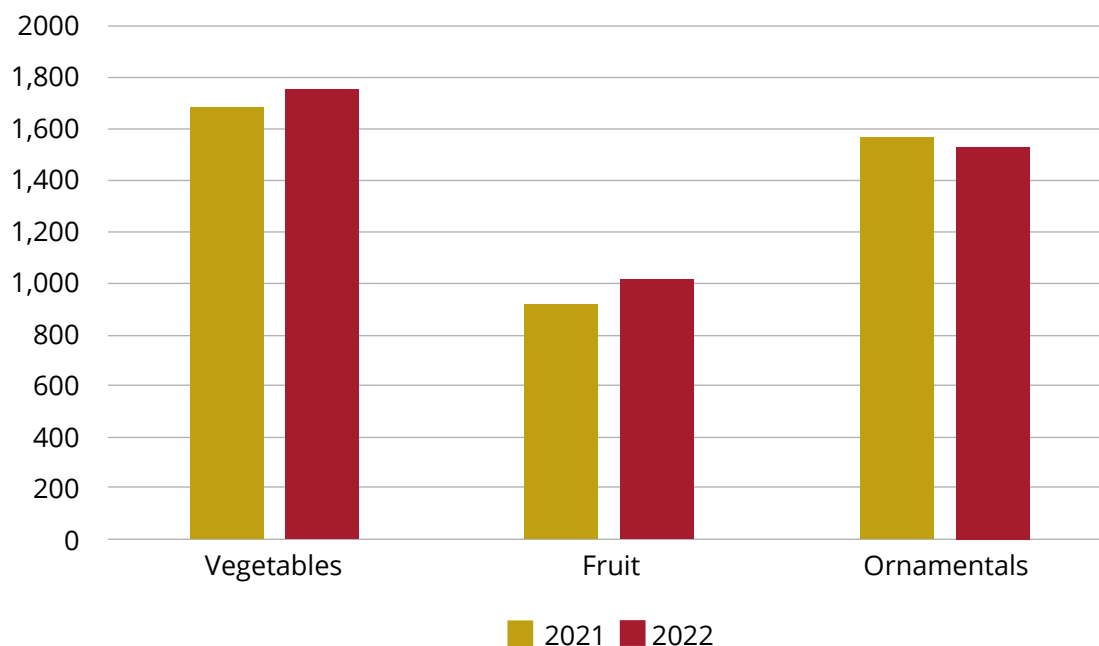
Source: Defra, *Automation in horticulture review* (27 July 2022): <https://www.gov.uk/government/publications/defra-led-review-of-automation-in-horticulture/automation-in-horticulture-review> [accessed 18 October 2023]

Of the total supply of fruit and vegetables in the UK in 2022, only 17 per cent of fruit and 55 per cent of vegetables were home produced. Home-produced fruit was worth just over £1 billion, vegetables £1.8 billion, and ornamentals £1.5 billion, as shown in Figure 1.⁶

5 House of Lords Library, 'The UK's horticultural sector, Library Note', (4 October 2022): <https://lordslibrary.parliament.uk/the-uks-horticultural-sector/> [accessed 18 October 2023]

6 Defra, *Horticulture statistics – 2022* (13 June 2023): <https://www.gov.uk/government/statistics/latest-horticulture-statistics/horticulture-statistics-2022> [accessed 4 September 2023]

Figure 1: Value of fresh fruit, vegetables, and ornamentals, 2021 and 2022 (£ million)



Source: Defra, *Horticulture statistics–2022* (13 June 2023): <https://www.gov.uk/government/statistics/latest-horticulture-statistics/horticulture-statistics-2022> [accessed 4 September 2023]

Due to the scale and complexity of the sector, it is difficult to measure the size of its wider contribution to the economy and industry estimates vary. The Chartered Institute of Horticulture recognises that businesses growing fruit and vegetables employ over 50,000 people, while other industry estimates suggest that as many as 674,200 people are employed by the wider ornamental and landscaping sector.⁷

A report produced for the Environmental Horticulture Group (formerly known as the Ornamental Horticulture Roundtable Group) found that the entire GDP footprint of the ornamental and landscaping sector was £28.8 billion in 2019 and, with the right support, could reach almost £42 billion in 2030.⁸ The terms ‘environmental’ and ‘ornamental’ horticulture are used increasingly interchangeably given the environmental potential of ornamental plants and plant products. In this report we most frequently use the term ‘ornamental’ as it reflects the evidence we received.

As well as providing for food security and ornamental supply, gardens play a significant role in tourism. It is estimated that a third of all visits to the UK include a trip to a garden or park, with garden tourism said to generate £2.9 billion towards UK GDP.⁹

7 Chartered Institute of Horticulture, *Business, production and food*: <https://www.horticulture.org.uk/grow-careers/business-production-food/> [accessed 18 October 2023]; Ornamental Horticulture Roundtable Group, *Growing a green economy* (2021): <https://hta.org.uk/media/sn1nuwlj/oxford-economics-report.pdf> [accessed 18 October 2023]

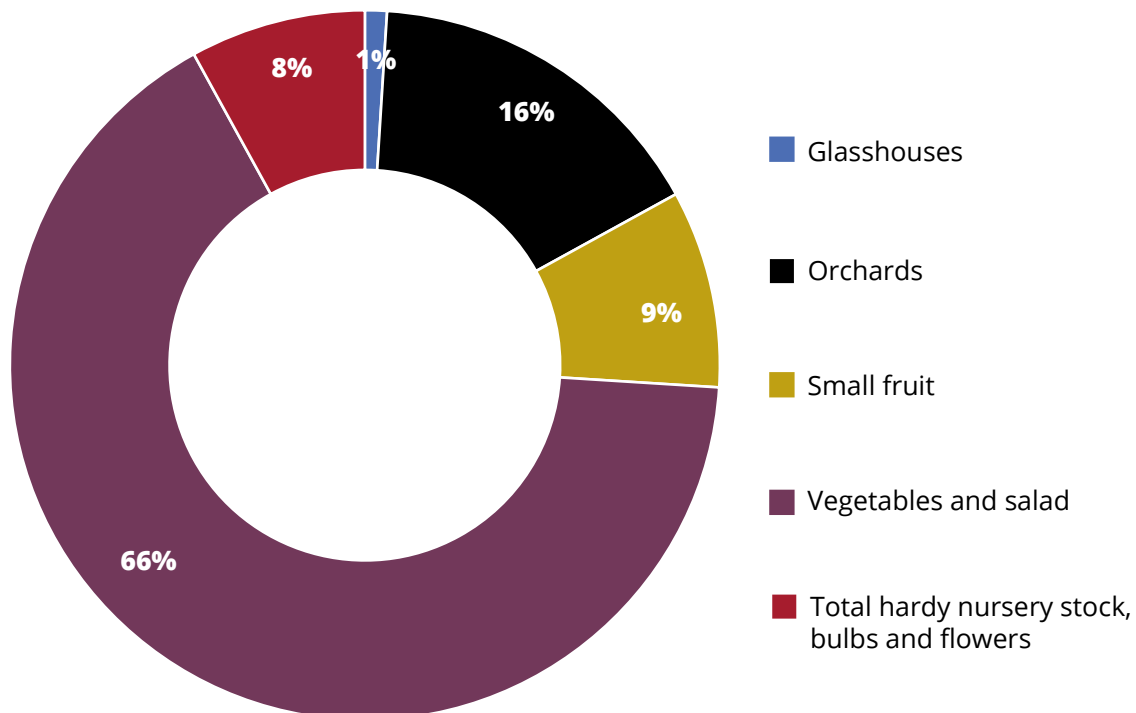
8 Ornamental Horticulture Roundtable Group, *Growing a Green Economy* (August 2021): <https://www.rhs.org.uk/science/pdf/industry-growth-report-ohrg.pdf> [accessed 18 October 2023]

9 Digital, Culture, Media and Sport Committee, *Garden design and tourism* (Fourteenth Report, Session 2017–19, HC 2002)

Agriculture accounts for 63.1 per cent of land use in England.¹⁰ However, horticultural activities only have a relatively small footprint; sector figures show that it takes up less than 2 per cent of farmed land in the UK. In comparison, horticulture provides approximately 20 per cent of farm-gate value.¹¹

As of June 2023, the area of horticultural crops covers 116,540 hectares (ha) of land in England, down from 158,224ha in 2002, more than a quarter (-26.3 per cent).¹² This is broken down as shown in Figure 2.¹³

Figure 2: Horticultural areas on agricultural holdings on 1 June 2023



Source: Defra, *Agricultural land use in England* (updated 28 September 2023): <https://www.gov.uk/government/statistics/agricultural-land-use-in-england> [accessed 19 October 2023] NB. Glasshouse figures relate to land usage on 1 June and are not necessarily good indicators of annual production.

Today, in addition to this space, around 5 per cent of land use in England is classed as private residential gardens, making up 633,400ha.¹⁴ This is roughly equivalent to an area the size of Aberdeenshire.¹⁵

10 DLUHC, *Land use statistics: England 2022* (27 October 2022): <https://www.gov.uk/government/statistics/land-use-in-england-2022/land-use-statistics-england-2022> [accessed 4 September 2023]

11 Written evidence from the Soil Association ([HSI0040](#)) and the National Farmers Union ([HSI0029](#)); [Q 76](#) (Clare Mike) and [Q 91](#) (Ali Capper)

12 Defra, *Agricultural land use in England at 1 June 2023* (updated 28 September 2023): <https://www.gov.uk/government/statistics/agricultural-land-use-in-england/agricultural-land-use-in-england-at-1-june-2023> [accessed 16 October 2023]

13 Defra, *Agricultural land use in England* (updated 28 September 2023): <https://www.gov.uk/government/statistics/agricultural-land-use-in-england> [accessed 19 October 2023]

14 Written Answer, [HL1149](#), Session 2022–23

15 ONS, *Standard Area Measurements (Latest) for Administrative Areas in the United Kingdom (V2)* (updated 5 April 2023): <https://geoportal.statistics.gov.uk/datasets/ons::standard-area-measurements-latest-for-administrative-areas-in-the-united-kingdom-v2/about> [accessed 8 September 2023]

Sowing the seeds: A blooming English horticultural sector

CHAPTER 1: “ENGLAND NEEDS A CROSS-DEPARTMENTAL HORTICULTURE STRATEGY”¹⁶

1. Horticultural policies, strategies and plans are owned by Defra, yet many of the challenges facing the horticultural sector are in the portfolios of other government departments. As a result, many stakeholders and witnesses to this inquiry said that their concerns are poorly understood in Whitehall with an apparent lack of joined-up thinking across Government departments involved in making policy relevant to the horticultural sector, and poor cross-departmental planning on its future. They also noted that we are still waiting for the Government to respond to a number of reviews that have been commissioned to address horticultural-specific challenges, and for the long-awaited “world-leading” horticultural strategy that was promised in June 2022 and which had morphed into an “action plan” by May 2023. What is absolutely clear is that “England needs a cross-departmental horticulture strategy” if it is to meet these challenges and deliver on key net zero and food security targets.¹⁷

Cross-departmental working

2. The range of departmental and non-departmental bodies involved in decision-making on policies that impact the horticultural sector are as follows:
 - The lead department for horticultural policy is the Department for Environment, Food and Rural Affairs (Defra).
 - The Department for Education (DfE) leads on qualifications and skills.
 - The Department for Levelling Up, Housing and Communities (DLUHC) provides funding for parks and green spaces.
 - The Department for Science, Innovation and Technology (DSIT) works with UK Research and Innovation (UKRI) to optimise R&D investment.
 - The Department for Energy Security and Net Zero (DESNZ) aims to secure long-term energy supply, making sure the UK is on track to meet its net zero commitments and deliver green jobs.
 - The Department for Business and Trade (DBT) supports growth by backing British businesses, promoting investment, and championing free trade.
 - The Home Office administers the seasonal worker visa scheme.

16 Written evidence from Sustainable Food Places ([HSI0047](#))

17 *Ibid.*

- The Department of Health and Social Care has overarching responsibility for social prescribing, mental health and healthy eating policy.
3. Many public bodies work alongside these departments to deliver policies relevant to the horticultural sector. These include (but are not limited to): the Agriculture and Horticulture Development Board (AHDB), the Environment Agency, Natural England, the Groceries Code Adjudicator, and UKRI.
 4. Tessa Jones, Director for the Agri-Food Chain Directorate at Defra told us that Defra “feels like a different department from the one I joined in 2015” and said:

“I would now certainly characterise [Defra] as an equal partner and a major player in everything from trade negotiations from funding discussions ... we feel very confident in our place at the cross-governmental table”.¹⁸
 5. We heard that it is “critical” to take a more “cross departmental approach to horticulture policy”.¹⁹ For example, the Soil Association told us that “a more cross-cutting approach to policy is required if an increased supply of fruit and vegetables is to occur in tandem with an increase in demand”.²⁰ The Horticultural Trades Association (HTA) told us about the importance of cross-departmental working on green jobs.²¹ One exemplar of good practice in cross-departmental working was provided by the Environmental Horticulture Group, who pointed to “the Netherlands as an example where research and development policy [encourages] shared learning and knowledge transfer between government and industry” and advised that in practice, this means prioritising cross-working with DSIT and DBT.²²
 6. Speaking about the cross-departmental nature of policymaking in this space, Mark Spencer MP, Minister of State for Food, Farming and Fisheries at Defra, told us that it was a “constant battle” coordinating with other departments, however he assured us that “healthy conversations” were being had to represent the interests of horticulture in cross-cutting policy areas.²³
 7. **Several departments, bodies, and organisations make decisions that impact the horticultural sector, but there is a lack of cross-departmental working. This can result in delays and inefficiencies in decision-making.**
 8. *The Government should consider establishing a cross-departmental horticultural sector working group, to include participants from Defra, DfE, DHSC, DBT, DESNZ, and the Home Office.*

Government planning

9. In June 2022, the Government Food Strategy committed to developing a “world leading horticulture strategy for England”, with the aim of boosting

18 [Q 15](#) (Tessa Jones)

19 Written evidence from Fruit and Vegetable Alliance ([HSI0061](#))

20 Written evidence from the Soil Association ([HSI0040](#)), see also written evidence from Sustainable Food Places ([HSI0047](#)) and British Growers Association ([HSI0071](#)).

21 Written evidence from the Horticultural Trades Association ([HSI0053](#))

22 Written evidence from the Environmental Horticulture Group ([HSI0042](#))

23 [Q 282](#) (Mark Spencer MP)

production in UK horticulture, creating skilled job opportunities, and future-proofing the sector in the face of climate change.²⁴ Yet, as the NFU told us, there has been “little in the way of action since last summer” to suggest that these are “more than just warm words”.²⁵ The Government confirmed on 30 January 2023, and reiterated on 2 May that they “will not be developing a published strategy for the horticulture sector as originally envisaged in the Government Food Strategy”.²⁶ However, on 17 May the Government said they would “set out an action plan for the horticulture sector in the Autumn when we will also respond to the Labour Review”.²⁷ At the time this report was agreed, in October 2023, both the action plan and the response to the Labour Review had not been published.

10. Anna Taylor, Executive Director of the Food Foundation, described the Government’s decision not to pursue the strategy as “extremely disappointing”.²⁸ Food journalist Joanna Blythman described it as a “serious error”.²⁹ Ali Capper, Director at Stocks Farm, said that the decision “beggars belief” given that the “industry is in crisis and on a knife edge”.³⁰ She told us that one of the biggest issues is the lack of appreciation of the timescale needed in horticulture for delivery on policies:

“A lot of government policy seems to be quite last minute, reactive, and difficult for businesses that are trying to plan. Most businesses have a five-year planning cycle. For an orchardist, it is a 20-year cycle because the trees that we plant this year were ordered two years ago and will not come into full production for another five or six years. We do not hit profitability until years 12 or 13. We take massive risks, so we need certainty”.³¹

11. Other countries have taken such steps. In October 2023, the Irish Department of Agriculture, Food and the Marine confirmed €14.35 million for horticulture in its Budget 2024. This includes a capital investment programme worth €10 million, while €1.35 million will support the delivery of the National Strategy for Horticulture 2023–2027.³²
12. Mark Spencer MP told us that whilst strategies can be “useful, they are also a snapshot in time” which, in an industry as “dynamic” as horticulture, can frustrate action. He told us it was better to “concentrate much more on

24 Defra, *Government food strategy*, CP 698 (June 2022): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1082026/government-food-strategy.pdf [accessed 18 October 2023]

25 Written evidence from NFU ([HSI0029](#))

26 Written Answer [HL 3858](#) and [HL 7589](#), Session 2022–2023

27 Written Answer [HL 7589](#), Session 2022–2023

28 ‘Campaigners disappointed over Government horticulture strategy ‘U-turn’’, *Evening Standard* (15 May 2023): <https://www.standard.co.uk/business/business-news/campaigners-disappointed-over-government-horticulture-strategy-uturn-b1081192.html> [accessed 18 October 2023]

29 ‘Defra’s decision to abandon a UK horticulture strategy is a serious error’, *The Grocer* (23 May 2023): <https://www.thegrocer.co.uk/second-opinion/defras-decision-to-abandon-a-uk-horticulture-strategy-is-a-serious-error/679477.article> [accessed 18 October 2023]

30 ‘Ditching of English horticulture strategy ‘beggars belief’’, *Farmers Weekly* (3 May 2023): <https://www.fwi.co.uk/news/ditching-of-english-horticulture-strategy-beggars-belief> [accessed 18 October 2023]

31 [Q 83](#) (Ali Capper)

32 Government of Ireland Department of Agriculture, Food and the Marine, Press Release: *Minister Hackett welcomes funding for organics, forestry and horticulture to underpin long-term strategic direction* on 11 October 2023: <https://www.gov.ie/en/press-release/42498-minister-hackett-welcomes-funding-for-organics-forestry-and-horticulture-to-underpin-long-term-strategic-direction/> [accessed 18 October 2023]

action than on documentation”, and that the Government had found the NFU’s recent UK Horticulture Growth Strategy very helpful.³³

13. **Short-term Government planning cycles are at odds with the certainty needed across the horticulture sector, many parts of which need to plan across a five to 20-year cycle. The Government’s failure to produce a Horticulture Strategy for England has confounded many in the horticulture sector and left them feeling forgotten by Government at their moment of greatest need. We intend that this report provide an optimistic vision of the future for the sector in England, and recommendations for what might be done to guide it into the future, but it is not a substitute for a Government strategy.**
14. *The Government must look to reassure and guide the horticultural sector through longer-term planning cycles. To this end, it must publish a Horticulture Strategy for England as promised in the Government Food Strategy as a matter of highest urgency.*

Government response to reviews

15. The Government has been quick to commission reviews in this area, but slow to respond to them. At the time of publication, we are still waiting for the Government to respond to:
 - Automation in Horticulture Review (published 27 July 2022)
 - Charging arrangements at government-run Border Control Posts - Consultation (Published 12 June 2023)
 - Independent Review into Labour Shortages in the Food Supply Chain (published 30 June 2023)
 - R&D Tax Reliefs Review: Consultation on a single scheme (Published July 2023)
16. **The Government has commissioned expert reviews relevant to this area, and we thank the authors of the Automation in Horticulture Review, the Independent Review into Labour Shortages, the Consultation on the Common User Charge, and the Consultation on the Review of the R&D Tax Reliefs Review. It is not acceptable that we are still waiting for Government to respond to these reviews.**
17. *The Government must publish a response to the Automation in Horticulture Review, the Independent Review of Labour Shortages, the Consultation on the Common User Charge, and the Consultation on the Review of the R&D Tax Reliefs Review as soon as possible.*

Ministerial oversight

18. Horticulture lies within the portfolio of the Minister for Food, Farming, and Fisheries within Defra. His list of responsibilities on Gov.uk includes that he is lead for the “Agriculture and Horticulture Development Board” but apart from this single statement, horticulture is not mentioned elsewhere on the

³³ Q 273 (Mark Spencer MP); NFU, *UK Horticulture Growth Strategy* (March 2023): <https://www.nfuonline.com/media/unpdalyr/nfu-uk-horticulture-growth-strategy.pdf> [accessed 20 October 2023]

website.³⁴ Given that the AHDB Horticulture is winding down, horticulture will not receive a prominent place within his list of responsibilities, we are concerned that people in the horticultural sector will not have their interests adequately represented in Government, nor given enough emphasis as part of this ministerial portfolio.

19. This lack of ministerial oversight is particularly true of ornamental horticulture, which many in the sector feel is ignored in Whitehall. Garden designers Jonathan Sheppard and Adam Frost told us that “horticulture has often been the Cinderella sector when compared to its larger, and often seen as more important, but intertwined sector of Agriculture”.³⁵ However, Mark Spencer MP told us that he engaged with the horticulture sector regularly and recognised that “ornamental is an important part of the economy”, whilst favouring a cross-sector approach to policymaking.³⁶ Tim Mordan, Deputy Director for Innovation, Productivity and Science at Defra, told us that the Department met with ornamental groups as much as they meet with groups representing food producers.³⁷
20. Mark Spencer MP was sceptical about the appointment of a standalone Minister for Horticulture, telling us that “the difficulty is that if you go down that route there are not enough ministers to deal with all the individual sectors”, and that several challenges facing the horticultural sector cross-over with those facing other sectors.³⁸
21. **Horticulture, particularly ornamental horticulture, is not given enough prominence within the portfolio of the Minister for Food, Farming, and Fisheries, which leads to horticultural businesses feeling like they do not have a voice in Government.**
22. ***The Government must appoint a Minister with specific horticultural responsibilities to provide direction and accountability for the sector.***

Environmental Land Management Schemes

23. Post-EU Exit, the Government is managing the transition from the EU’s Common Agricultural Policy (CAP) to Environmental Land Management Schemes (ELMS). The Government says these reforms are “essential to help us grow and maintain a resilient, productive agriculture sector over the long term and at the same time achieve our ambitious targets for the environment and climate”.³⁹ The three key ELMS are:
 - The Sustainable Farming Incentive (SFI), which pays farmers to adopt and maintain sustainable farming practices that can protect and enhance the natural environment alongside food production, and also support farm productivity (see Table 2). In 2022, a pilot SFI ran with

34 HM Government, ‘Ministerial role: Minister of State (Minister for Food, Farming and Fisheries)’: <https://www.gov.uk/government/ministers/minister-of-state--124> [accessed 4 September 2023]

35 Written evidence from Jonathan Sheppard and Adam Frost (HSI0043)

36 Q 274 (Mark Spencer MP)

37 Q 274 (Tim Mordan)

38 Q 274 (Mark Spencer MP)

39 Defra, *Environment Land Management update: how government will pay for land-based environment and climate goods and services* (January 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1136855/Environmental-Land-Management-Update-January-2023-Accessible-Final.pdf [accessed 4 September 2023]

850 farmers. The SFI payment is £20 per hectare per year for up to the first 50 hectares put into SFI actions, up to £1,000.⁴⁰

- In June 2023, the Government updated the SFI to simplify the scheme from the pilot phase and allow farmers flexibility on the actions they want to take. Farmers will only be shown options available to their farm, and the options available are less prescriptive. The Government has also produced sector-specific guidelines and a new SFI handbook. This new regime was rolled out in August 2023.⁴¹ Mark Spencer MP told us that the simple system will be a “huge improvement” and be more farmer-friendly.⁴²
- The Countryside Stewardship (CS), which pays for more targeted actions relating to specific locations, features and habitats.⁴³ There are “about 40,000 agreements in [the] Countryside and Environmental Stewardship scheme, covering about 34 per cent of agricultural land”.⁴⁴ Payments vary depending on the actions taken, from £4.42 for the maintenance of traditional farm buildings to £2,129 for the maintenance of designed/engineered water-bodies: payments were revised up from 1 January 2023.⁴⁵ The Government hopes to offer the SFI and CS in a single service in future.⁴⁶
- Country Stewardship Plus offers land managers “an incentive to join up across local areas to deliver bigger and better results”.⁴⁷
- Landscape Recovery pays for bespoke, longer-term larger scale projects to enhance the natural environment. In 2022, there were 22 projects across 40,000 hectares. These projects focused on the restoring 400 miles of rivers and protecting and providing habitat for 263 species. The next round of 25 projects, which closed for applications in September 2023, will focus on net zero, protected sites and habitat creation.⁴⁸ For the first time, a food production criterion will ensure prospective projects take food production into consideration and mitigate negative impacts on this where possible.⁴⁹

40 *Ibid.*

41 Defra and Rural Payments Agency, *Sustainable Farming Incentive: Handbook for the SFI 2023 offer* (21 June 2023): <https://www.gov.uk/government/publications/sfi-handbook-for-the-sfi-2023-offer> [accessed 4 September 2023]

42 [Q 280](#) (Mark Spencer MP)

43 Defra, *Environment Land Management update: how government will pay for land-based environment and climate goods and services* (January 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1136855/Environmental-Land-Management-Update-January-2023-Accessible-Final.pdf [accessed 4 September 2023]

44 *Ibid.*

45 Defra and Rural Payments Agency, *Guidance: Revenue options payment rate changes from 1 January 2023*, (1 January 2023): <https://www.gov.uk/government/publications/revenue-payment-rates-from-january-2023-countryside-stewardship/revenue-options-payment-rate-changes-from-1-january-2023> [accessed 4 September 2023]

46 Defra, *Environment Land Management update: how government will pay for land-based environment and climate goods and services* (January 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1136855/Environmental-Land-Management-Update-January-2023-Accessible-Final.pdf [accessed 4 September 2023]

47 *Ibid.*

48 *Ibid.*

49 Defra, Environment Agency and Natural England, Press Release: *New funding for farmers to protect the English landscape* on 18 May 2023: <https://www.gov.uk/government/news/new-funding-for-farmers-to-protect-the-english-landscape> [accessed 18 October 2023]

Table 2: Actions available to horticultural land managers to receive payments under the 2023 Sustainable Farming Incentive

Action		Title
Soils	SAM1	Assess soil, test soil organic matter and produce a plan
	SAM2*	Multi-species winter cover crops
Integrated pest management	IPM1	Assess integrated pest management and produce a plan
	IPM2	Flower-rich grass margins, blocks, or in-field strips
	IPM3	Companion crop on arable and horticultural land
	IPM4	No use of insecticide on arable crops and permanent crops
Nutrient management	NUM1	Assess nutrient management and produce a review report
	NUM3*	Legume fallow
Wildlife on arable and horticultural land	AHL1*	Pollen and nectar flower mix
	AHL2	Winter bird food on arable and horticultural land
	AHL3*	Grassy field corners and blocks
	AHL4*	4m to 12m grass buffer strip on arable and horticultural land

Source: Defra, *Sustainable Farming Incentive (SFI) Handbook for the 2023 offer* (21 June 2023): <https://www.gov.uk/government/publications/sfi-handbook-for-the-sfi-2023-offer> [accessed 24 October 2023]. Actions marked * require the avoidance of pesticides and fertilisers with certain exemptions.

24. Evidence to the inquiry about ELMS was very mixed. Rosalie Maunder, Project Intern at Khepera CIC and Empower to Cook CIC, told us that the response from growers had been “overwhelmingly negative with many just uninterested in the scheme and with no plans to get involved”, mainly because it was not “financially feasible ... to take land out of production for ELMS”.⁵⁰ This sentiment was reflected by Ali Capper, who told us that ELMS was “not fit for purpose for most horticultural enterprises”.⁵¹ She continued:

“As an orchardist, I do not want a scheme predicated on income forgone as it means I would have to take out trees to do environmental good. That is completely barking mad when you grow orchards, when you could be incentivised to put environmental good into an orchard ... but there is nothing in the ELMS standard to encourage that ... there is nothing in the ELMS standard to encourage carbon calculator action ... When I look at all the measures, they cover my costs, but they do not allow me to make a profit. I am not a charity; I am trying to run a business.”⁵²

50 Written evidence from Rosalie Maunder (HSI0006)

51 Q 85 (Ali Capper)

52 *Ibid.*

25. The British Independent Fruit Growers' Association told us that "early signs are that the payments under ELMS are too low".⁵³ There were concerns about equality of access to ELMS, particularly for independent growers, small/low land area growers, intensive growers, and growers of protected edibles.⁵⁴ Growers under 5ha are not eligible for ELMS, which cuts out a significant portion of the market to uncertain effect. Aoife Maher, PhD researcher at Centre for Rural Policy Research at the University of Exeter, told us that there is a data gap on the production value of holdings of this size, because since 2010 Defra has chosen to "filter out small farms" when collecting data, even though "this group represented 40 per cent of all farms included [in data gathering] prior to 2010".⁵⁵
26. The ornamental sector is enthusiastic about ELMS in theory but concerned that ornamental horticulture is being excluded. James Barnes, Chair of the HTA, told us that "there is very little in [ELMS] for the environmental or horticultural sector other than the fact that it may encourage more tree planting".⁵⁶ We heard that the ELMS criteria should be broadened to include "the development or expansion of gardens" as well as domestic gardens, community gardens and urban green spaces under nature recovery schemes.⁵⁷
27. Defra's Tim Mordan told us that he had received "very positive feedback" about the "different way of working "under ELMS, with growers enjoying the emphasis on "collaboration and co-design" rather than the former "rigid system".⁵⁸
28. In June 2022, the Government reported that they had undertaken a test with the Landworkers Alliance to ensure that ELMS was "flexible enough to cope with the diversity of business types and sizes within the horticulture sector, whilst remaining simple to use and able to enhance take up of the future schemes".⁵⁹ The project ran for 15 months and involved 65 growers. Defra reported that they recognised "the need for setting fair and effective payment rates to incentivise future scheme uptake" and that the "approach to payments under the SFI has been updated to better reflect understanding of delivery costs". However, it is unclear what changes had been made to the 2023 ELMS scheme because of the test and trial.⁶⁰
29. **The Environmental Land Management Schemes (ELMS) policy is a positive step towards accomplishing the Government's goals of growing and maintaining a resilient and productive agricultural sector over the long-term, whilst achieving environmental and climate targets. The updated SFI guidance published in June 2023 shows that the scheme can change rapidly based on the needs of growers, but evidence to this inquiry shows that ELMS needs further work to be of maximum use to growers. Many growers, particularly**

53 Written evidence from British Independent Fruit Growers' Association ([HSI0016](#))

54 Written evidence from BIFGA ([HSI0016](#)), NFU ([HSI0029](#)), Sustainable Food Places ([HSI0047](#)), British Berry Growers ([HSI0054](#)), FVA ([HSI0061](#)) and West Sussex Growers' Association ([HSI0062](#))

55 Written evidence from Aoife Maher, University of Exeter ([HSI0064](#))

56 [Q 30](#) (James Barnes)

57 Written evidence from the Royal Horticultural Society ([HSI0050](#)), All-Party Parliamentary Gardening and Horticulture Group ([HSI0041](#)); see also Horticultural Trades Association ([HSI0053](#)).

58 [Q 17](#) (Tim Mordan)

59 Defra, *Tests and Trials Evidence Report Schemes for environmental land management* (June 2022): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1176127/elm-tt-june22.pdf [accessed 4 September 2023]

60 *Ibid.*

those in intensive farming, or working on plots of less than 5ha, do not feel that ELMS meets the needs of their businesses. We are also concerned that ELMS does not offer sufficient incentives to growers in the ornamental horticulture sector, or to urban land managers.

30. *The Government must continue to provide tailored communications to the horticultural sector, particularly to growers of ornamental plants, on ELMS schemes for which they are eligible. If applications to the scheme from these growers remain low, the Government should consult on broadening the criteria to make ELMS more accessible to land managers in the ornamental horticulture sector, including to those who manage land in urban spaces such as community gardens.*
31. *The Government must “test and trial” an ELMS initiative for growers in intensive horticulture and protected edibles that is delinked from farm size.*
32. *Payments from the ELMS scheme should be kept under review to ensure they fully recognise the loss of income from reduction of productive land.*
33. *The Government must set out how it will implement the lessons learned from the 2022 ELMS test and trial undertaken with the Landworkers Alliance.*

CHAPTER 2: “A PERFECT STORM”

34. In recent years, the horticultural sector has found itself at the eye of a “perfect storm” created by the conflation of multiple domestic and global challenges.⁶¹ In 2020, the impacts of EU Exit were compounded by the unexpected onslaught of the COVID-19 pandemic, and in 2022, the war in Ukraine further impacted geopolitical and economic uncertainty. These immediate challenges have placed increasing pressure on the horticultural sector, which was already facing working hard to adapt to and mitigate the impacts of climate change. A range of short and long-term levers will need to be pulled to meet these challenges and safeguard its future.

Input costs

35. Inputs are costs incurred to create a product or service. Growers of both edible and ornamental produce have faced higher input costs in recent years due to market volatility caused by these multiple domestic and global challenges. For example, these events have caused the costs of key inputs, such as energy and fertiliser to rise.⁶²

Energy

36. The annual increases in gas and electricity prices to October 2022 were 129 per cent and 66 per cent respectively.⁶³ The NFU reported to us that cost inflation for farm inputs reached at a record high with energy prices up by 165 per cent.⁶⁴ Alex Charrington, an apple grower, told us that their energy costs rose by a staggering 1400 per cent between September and October 2022.⁶⁵

37. In another example, the Lea Valley is a 3450-acre area north of London which grows around 65 per cent of the UK’s cucumbers and peppers. In 2021, 8 per cent of their glasshouses were empty because growers could not afford to heat them. This had not happened in 40 years.⁶⁶

38. The Government set up support schemes in response to the crisis including the Energy Bills Discount Scheme (EBDS), which ran from April 2023 until March 2024. The Energy and Trade Intensive Industries (ETII) scheme establishes more support for selected industries. However, the list currently excludes the horticultural sector, except botanical gardens.⁶⁷

39. In May 2023, the Government said that it would assess where Controlled Environment Horticulture (CEH), which typically takes place indoors in conditions where the environment can be manipulated, struggle to find the

61 [Q 226](#) (Ben Raskin); written evidence from National Farmers Unions Scotland ([HSI0013](#)) and Intelligent Growth Solutions Ltd ([HSI0059](#))

62 See ‘Soaring costs put farmers on the front line of a food crisis’, *The Times* (28 August 2023): <https://www.thetimes.co.uk/article/soaring-costs-put-farmers-on-the-front-line-of-a-food-crisis-68f8p3twb> [accessed 26 October 2023]

63 House of Commons Library, *Domestic energy prices*, Research Briefing [CBP 9491](#), 13 September 2023

64 [Q 21](#) (Minette Batters)

65 Written evidence from Alex Charrington, Charrington Fruit Farms ([HSI0067](#))

66 Parliamentary Office of Science and Technology, *Future of Horticulture*, [POSTnote 707](#), October 2023

67 Department for Business Energy & Industrial Strategy, Department for Energy Security & Net Zero and HM Treasury, *Energy Bills Discount Scheme energy and trade intense industries assessment methodology* (updated 18 August 2023), Annex A: <https://www.gov.uk/government/publications/energy-bills-discount-scheme-factsheet/energy-bills-discount-scheme-energy-and-trade-intense-industries-assessment-methodology> [accessed 7 September 2023]

necessary data to qualify for the scheme.⁶⁸ To qualify, sectors must be in the top 20 per cent for energy intensity and top 40 per cent for trade intensity. Horticulture does not currently meet this threshold.⁶⁹

40. Several stakeholders told us that horticulture should be included in the scheme. For example, vertical farms (see Figure 5) and commercial greenhouses provide high yields in a smaller growing space compared to traditional farms, however they are highly energy-intensive and therefore are vulnerable to energy price fluctuations.⁷⁰ Landseer, a crop protection and horticultural advice company, told us that top fruit growers have invested heavily in state-of-the-art storage units to ensure that apples can be stored at the appropriate temperature (around 0.5C for up to nine months) but that these come at considerable energy cost.⁷¹
41. The HTA told us that rising input costs coupled with the exclusion of glasshouse growers from the ETII scheme means that “some glasshouse growers are considering exporting production for the most energy intensive periods of production”, with knock-on impacts on the staff they are able to employ.⁷² Other growers told us that a lack of confidence in energy security and long-term planning was impacting their investment decisions, which typically take place across high-risk planting cycles over long periods.⁷³
42. Both gas and oil prices have been steadily falling since June 2023, which has alleviated some of the pressure on the sector.⁷⁴ In the long-term, there is also a clear role for the domestic production of renewable energy to build sector resilience through reducing reliance on gas imports (see Chapter 4). However, in the short term, the Government has committed that CEH will be included amongst other manufacturing sectors in decisions on industrial energy policy.⁷⁵
43. **A conflation of factors such as the war in Ukraine and the longstanding impact of the pandemic on supply chains has demonstrated how vulnerable the UK is to energy price fluctuations. Exacerbated by inflationary pressures, growers in the protected horticulture sector have faced huge increases in energy costs, but it is not recognised as an energy-intensive industry.**
44. ***The Government must recognise horticulture as an energy intensive industry and add it to the list of sectors eligible for the ETII scheme.***

Fertiliser

45. The most commonly used fertiliser products are ammonium nitrate (AN), liquid nitrogen (UAN), granular urea, potash and phosphates.⁷⁶ Both

68 Defra and Prime Minister’s Office, *An update following the UK Farm to Fork summit held at 10 Downing Street on 16 May 2023* (16 May 2023): <https://www.gov.uk/government/publications/outcomes-from-the-uk-farm-to-fork-summit/an-update-following-the-uk-farm-to-fork-summit-held-at-10-downing-street-on-16-may-2023> [accessed 4 September 2023]

69 Written Answer [UIN 192804](#), Session 2022–23

70 Written evidence from the Soil Association ([HSI0040](#))

71 Written evidence from Landseer Ltd ([HSI0011](#))

72 Written evidence from the Horticultural Trades Association ([HSI0053](#))

73 Written evidence from Alex Charrington, Charrington Fruit Farms ([HSI0067](#))

74 House of Commons Library, *Rising cost of living in the UK*, Research Briefing [CBP 9428](#), 20 February 2023

75 Written evidence from Defra ([HSI0087](#))

76 AHDB, *GB fertiliser prices* (updated 10 August 2023): <https://ahdb.org.uk/GB-fertiliser-prices> [accessed 4 September 2023]

nitrogen-based and non-nitrogen fertiliser are sourced overseas although around 40 per cent of the UK's fertiliser requirements are met domestically.⁷⁷ Fertilisers can cause significant environmental damage through leaching and through the release of greenhouse gases into the atmosphere (see Chapter 4).⁷⁸

46. Between May 2021 and May 2022, the price of UK-produced ammonia nitrate fertiliser in the UK increased by 152 per cent.⁷⁹ The reasons for this are varied but include an upward pressure on the price of gas, which is required to produce nitrogen-based fertiliser, due to the war in Ukraine. The war also led to higher tariffs and disrupted movement of Russian fertilisers. At the same time, Chinese export controls on fertilisers also impacted supply.⁸⁰
47. The UK Food Security Report 2021 identified fertiliser supplies as a risk to domestic food production.⁸¹ Just one year later, in 2022, one of the UK's two major producers of fertiliser closed its doors permanently.⁸² In July 2023, the House of Commons EFRA Committee raised concerns around the impact of the UK's fragile fertiliser supply and highlighted the lack of information on the steps the Government will take to protect domestic production of fertiliser.⁸³ The UK's final ammonia plant in Billingham announced that it would permanently shut down the same month.⁸⁴
48. Minette Batters, President of the NFU, told us that the impact of compounding global and geopolitical challenges has been an increase in fertiliser prices by as much as 40 per cent.⁸⁵ This increase in fertiliser prices has placed upward pressure on the costs of doing business for growers.⁸⁶ More recently, fertiliser prices have stabilised somewhat, albeit at higher levels.⁸⁷
49. The Government's primary vehicle for liaising with industry on fertiliser price transparency and monitoring is the Fertiliser Industry Taskforce, a partnership between Defra, the NFU, AHDB, the Agricultural Industries Confederation and devolved administrations.⁸⁸

77 Written Answer [UIN 109548, Session 2022–2023](#); HL Library, 'Rising cost of agricultural fertiliser and feed: causes, impacts and government policy' (22 June 2022): <https://lordslibrary.parliament.uk/rising-cost-of-agricultural-fertiliser-and-feed-causes-impacts-and-government-policy/> [accessed 18 October 2023]

78 [Q 70](#) (Prof Tim Benton)

79 Defra, 'The science behind the Sustainable Farming Incentive', (8 March 2023): <https://defrafarming.blog.gov.uk/2023/03/08/the-science-behind-the-sustainable-farming-incentive/> [accessed 5 September 2023]

80 House of Lords Library, 'Rising cost of agricultural fertiliser and feed: causes, impacts and government policy', (22 June 2022) <https://lordslibrary.parliament.uk/rising-cost-of-agricultural-fertiliser-and-feed-causes-impacts-and-government-policy/> [accessed 18 October 2023]

81 Defra, *UK Food Security Report 2021* (16 December 2021): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1077015/United_Kingdom_Food_Security_Report_2021_19may2022.pdf [accessed 11 September 2023]

82 AHDB, *GB fertiliser prices* (updated 10 August 2023): <https://ahdb.org.uk/GB-fertiliser-prices> [accessed 4 September 2023]; HL Library, 'Rising cost of agricultural fertiliser and feed: causes, impacts and government policy' (22 June 2022) <https://lordslibrary.parliament.uk/rising-cost-of-agricultural-fertiliser-and-feed-causes-impacts-and-government-policy/> [accessed 18 October 2023]

83 Environment, Food and Rural Affairs Committee, *Food Security* (Seventh Report, Session 2022–23, HC 622)

84 'CF Fertilisers permanently halts ammonia production in Billingham', *The Northern Echo* (25 July): <https://www.thenorthernecho.co.uk/news/23679728.cf-fertilisers-permanently-halts-ammonia-production-billingham/> [accessed 26 October 2023]

85 [Q 21](#) (Minette Batters)

86 [Q 23](#) (James Barnes)

87 Written evidence from Defra ([HSI0087](#))

88 *Ibid.*

50. **Recent gas price increases have led to spikes in fertiliser prices, particularly for manufactured ammonium nitrate and urea fertilisers, which take a significant amount of energy to produce. There is a pressing need to address this issue in the short term.**
51. *The Committee agrees with the EFRA Committee that the Government should set out how it will ensure continued fertiliser production in the UK. The Fertiliser Industry Taskforce must make good on its promise to increase transparency in the fertiliser market to help mitigate the effects of price volatility by working closely with industry on a regular basis. In the long term, the Taskforce must take note of our recommendations on R&D with a view to reducing dependence on nitrogen and phosphorous-based fertilisers.*

Relationships with supermarkets

52. As well as hitting input costs, inflation has increased the prices consumers pay for food items. In March 2023, food price inflation peaked at 19.2 per cent, the highest annual rate seen for over 45 years. While these figures cannot be directly compared with inflation linked to ornamental produce, the standard Consumer Prices Index (CPI) rose by 7.9 per cent in the 12 months to June 2023.⁸⁹ As of 18 October 2023, the standard CPI rose by 6.7 per cent in the 12 months to September 2023, while food prices fell for the first time since September 2021.⁹⁰
53. In the face of rising input costs, some growers have received static returns for their produce. British Apples and Pears Ltd told us that despite a 17 per cent increase in the price of apples being charged to consumers, growers had received just 0.8 per cent increase in returns between 2021 and 2022.⁹¹ To put this in context, we were told that apple growers receive approximately 3 pence from a bag of six apples sold for £2.20.⁹² The British Independent Fruit Growers association told us that “the current situation is so bad for apple growers that many are deciding to grub up orchards rather than plant new ones”.⁹³
54. Supermarkets provide growers with a “slick, efficient and relatively cost-efficient way of presenting and selling” products to the market.⁹⁴ However, we have also heard that they exert huge pressure over growers, who often feel like “minnows” in the face of behemoth supermarket power in a “savage marketplace”.⁹⁵
55. Loss-leader pricing strategies, where retailers price-match to the lowest price in the market, are a critical factor in poor grower returns. The NFU told us that the cost-of-living crisis has intensified “retail price wars” in an already competitive market environment.⁹⁶ British Apples and Pears Ltd warned of a “race to the bottom” on price, arguing that the effective delegation of food

89 ONS, *Consumer price inflation, UK: June 2023* (19 July 2023): <https://www.ons.gov.uk/economy/inflationandpriceindices/bulletins/consumerpriceinflation/june2023> [accessed 8 September 2023]

90 *Ibid.*

91 Written evidence from British Apples and Pears Ltd ([HSI0063](#))

92 Written evidence from Rebecca Cassidy ([HSI0025](#))

93 Written evidence from the British Independent Fruit Growers’ Association ([HSI0016](#))

94 [Q 84](#) (Ali Capper)

95 [Q 84](#) (Ali Capper) and [Q 25](#) (Minette Batters)

96 Written evidence from NFU ([HSI0029](#))

policy to the market has resulted in the prioritisation of low prices over food supply and quality.⁹⁷

56. Retailers and suppliers typically operate on fixed contracts, which growers have told us result in difficulty raising the prices of produce.⁹⁸ Dr Tim Lacey, Fresh Produce Manager at HL Hutchinson, told us that “since UK retailers seem to operate on a fixed and extremely low margin contract price for fresh produce regardless of market conditions, the price received by growers now bears no relationship to market conditions”. This is resulting in significant risk being taken on by growers and a decline in confidence to invest in horticultural businesses.⁹⁹
57. We have heard that single-year contracts, often without provision for inflation clauses, result in a lack of certainty for growers who cannot make long-term investments in crops that have lengthy planting cycles.¹⁰⁰
58. We attempted to speak to the major supermarkets on this issue of price and supply associated with the horticultural sector given that the combined grocery market share (for all goods) of the four largest food and drink retailers was 64.9 per cent in September 2022. Tesco has the largest market share at 26.9 per cent.¹⁰¹ We were surprised and disappointed that only Tesco was willing to give public evidence to this inquiry with repeated invitations to Sainsbury’s, Morrisons, Asda, Aldi, and Lidl. Morrisons, Waitrose and Asda accepted a separate invitation to speak to the Committee in private (see Appendix 8) and Marks and Spencer submitted written evidence to the inquiry.¹⁰² Mark Spencer MP reassured us that Defra meets with supermarkets on a regular basis behind closed doors due to the commercial sensitivities associated with their businesses.¹⁰³
59. Tesco told the Committee that it has longstanding relationships with its suppliers built on mutual sustainability and an underlying presumption of fairness. Dominic Morrey, Commercial Director for Fresh Food and Commodities at Tesco, told us that dialogue on the length of contracts varies depending on various factors. He said that “it is completely in our mutual interests to ensure that our growers are receiving a fair return”. He did not comment on specific returns to growers but said that “in every pound that Tesco sells, approximately 96 to 97p is cost to run the business and sell the product”, suggesting around 4p in the pound is counted by Tesco as profit.¹⁰⁴
60. Mark Spencer MP told us that it should be recognised that “supermarkets and retailers have done a very good job of keeping food on the shelf”, particularly during the pandemic. He warned that “we do not want to drive food inflation in the wrong direction”, noting that consumers want to see the cost of their food basket remaining as low as possible.¹⁰⁵ We accept this, however it is only right that, as supported by the Minister, there should be balance in the share of risk, responsibility and reward across all parties in

97 Written evidence from British Apples and Pears Ltd ([HSI0063](#))

98 Written evidence from Dr Hannah Pitt and Dr Lydia Medland ([HSI0039](#))

99 Written evidence from Dr Tim Lacey, HL Hutchinson Ltd ([HSI0055](#))

100 Written evidence from British Apples and Pears Ltd ([HSI0063](#))

101 Defra, ‘Food statistics in your pocket’, (31 May 2023): <https://www.gov.uk/government/statistics/food-statistics-pocketbook/food-statistics-in-your-pocket> [accessed 4 September 2023]

102 [QQ 248–261](#) (Dominic Morrey); written evidence from Marks & Spencer ([HSI0088](#))

103 [Q 275](#) (Mark Spencer MP)

104 [Q 250](#) (Dominic Morrey)

105 [QQ 275–277](#) (Mark Spencer MP)

the supply chain in order to maintain business viability and to avoid the subsequent risk that “we will drive out the next generation from our sector”.¹⁰⁶

61. Powers contained in the Agriculture Act 2020 enable the Government to introduce statutory codes of contractual practice, which would apply to businesses when purchasing agricultural products directly from farmers.¹⁰⁷ Following the Farm to Fork Summit at Downing Street in May 2023, the Government said that “farmers should be paid a fair price for their produce” and announced that it would launch a new review of the supply chain for the horticulture sector.¹⁰⁸ Mark Spencer MP told us “there is some evidence that there has been an imbalance of power and that’s what I want to address in these investigations”, adding that work on the review would start in October and it would likely focus on food produce only.¹⁰⁹ This follows reviews into the dairy and pig sectors, which the Minister told us would “have repercussions across the whole sector” when published.¹¹⁰ The Government intends to introduce the legislation following this review later this year, with regulations for the pig sector forthcoming.¹¹¹
62. **Loss-leader strategies, price-matching to the lowest bidder and the perceived imperative to offer low prices to consumers at the expense of grower returns is squeezing the UK horticultural sector out in favour of cheaper imports. Despite the need for affordable food, particularly during a cost-of-living crisis, supermarket activity is fundamentally damaging food security in the UK by further increasing our reliance on cheap overseas imports and putting UK growers out of business. The Government’s review of fairness in the horticultural supply chain is welcome.**
63. *The Government must conduct and publish its review of fairness in the horticultural supply chain as soon as possible and include ornamentals within its scope.*

The Groceries Code Adjudicator

64. The Groceries Code Adjudicator (GCA) is responsible for regulating the relationships between the UK’s largest grocery retailers and their direct suppliers by encouraging, monitoring and enforcing compliance with the Groceries Supply Code of Practice (‘the Code’).¹¹² The GCA is supported by a small team of just seven staff, although the Competition and Markets Authority (CMA) has recently agreed to work with it on recruitment and access to professional expertise.¹¹³

106 [Q 275](#) (Mark Spencer MP)

107 Agriculture Act 2020, [Chapter 2](#) and written Answer [UIN 197906](#), Session 2022–2023

108 Defra and PM Office, *An update following the UK Farm to Fork summit held at 10 Downing Street on 16 May 2023* (16 May 2023): <https://www.gov.uk/government/publications/outcomes-from-the-uk-farm-to-fork-summit/an-update-following-the-uk-farm-to-fork-summit-held-at-10-downing-street-on-16-may-2023> [accessed 4 September 2023]

109 [Q 275](#) (Mark Spencer MP)

110 *Ibid.*

111 Written Answer [UIN 197906](#), Session 2022–23

112 GCA, ‘About us’: <https://www.gov.uk/government/organisations/groceries-code-adjudicator/about> [accessed 4 September 2023]

113 Defra and PM Minister’s Office, *An update following the UK Farm to Fork summit held at 10 Downing Street on 16 May 2023* (16 May 2023): <https://www.gov.uk/government/publications/outcomes-from-the-uk-farm-to-fork-summit/an-update-following-the-uk-farm-to-fork-summit-held-at-10-downing-street-on-16-may-2023> [accessed 4 September 2023]

65. The Code was intended to protect suppliers from being treated unfairly by supermarkets. The CMA determines which retailers come under the Code, reviewing the market and designating any retailer which meets the annual turnover threshold. GSCOP only applies to ‘Designated Retailers’, which are Aldi, Amazon, Asda, B&M, Co-operative, Iceland, Sainsbury’s, Lidl, Marks and Spencer, Ocado, Tesco, Home Bargains, Waitrose and Morrisons.¹¹⁴
66. We were told by the GCA, Mark White, that in light of inflationary pressures, the retailers’ refusal to consider a cost-price increase, or delays in responding to a request for a cost-price increase or agreeing to implement an agreed cost-price increase, became the most reported issue in the survey across the five years to 2022. Mr White told us that growers were reducing the amount of crop they were planting and considering whether to heat greenhouses at all given increased costs. He expressed concern at “the increased level of insolvencies across the economy brought about by those input cost pressures.”¹¹⁵
67. In February 2022, the GCA launched ‘7 Golden Rules’ for handling requests for cost price increases in the context of rising inflation. These included clearer communication about the length of the process and outcomes, greater support for buyers, and only asking for specific information from suppliers needed to make a CPI decision.¹¹⁶ The NFU called on the Government to “renew and refresh” the Code to embed these rules more tightly.¹¹⁷
68. In its latest survey for 2023, the GCA found that suppliers felt that retailers had increased their Code compliance, with the average compliance score across the 14 retailers at 92 per cent.¹¹⁸ Since its inception in 2013, we heard that the GCA has improved relationships between suppliers and retailers, however “growers still feel vulnerable to supermarket power”.¹¹⁹
69. Mark White told the Committee that retailers could do more to work with their buyers so that they can better understand the challenges and demands facing growers. The GCA has encouraged retailers to keep buyers in post for longer periods of time (two years minimum) “so that they can really get to understand the challenges and demands on the growers”.¹²⁰
70. The NFU told us that the GCA’s role was too limited to provide protection for primary producers downstream of the direct supplier, calling for the regulator to be given “serious teeth”, a view shared by several growers who gave evidence.¹²¹ Richard Stogdon told us that the GCA lacked sufficient powers to properly regulate the conduct and behaviours of retailers, while David Knight wrote that the GCA’s role was “active but limited”.¹²²

114 GCA, ‘About us’: <https://www.gov.uk/government/organisations/groceries-code-adjudicator/about> [accessed 4 September 2023]

115 Q 263 (Mark White)

116 GCA, ‘Edition 28: News from the Adjudicator’, (24 January 2022): <https://www.gov.uk/government/news/edition-28-news-from-the-adjudicator> [accessed 4 September 2023]

117 Written evidence from NFU (HSI0029)

118 GCA, ‘Improved compliance from Retailers despite inflationary pressures persisting’ (15 June 2023): <https://www.gov.uk/government/news/improved-compliance-from-retailers-despite-inflationary-pressures-persisting> [accessed 23 October 2023]

119 Written evidence from Prof Rebecca Cassidy (HSI0025)

120 Oral evidence taken before the Business and Trade Committee on 27 June 2023 (Session 2022–23); Q 99 (Mark White) and Q 263 (Mark White)

121 Written evidence from NFU (HSI0029); Q 26 (Minette Batters)

122 Written evidence from Richard Stogdon (HSI0078) and David Knight (HSI0005)

71. Mark White told us that he recognised an expanded scope with oversight of the wider supply chain would be welcomed by some primary producers, although he highlighted existing work in this area. He raised challenges linked to differences in commercial strategies and warned that the GCA's powers and limited resources may not be adequate to deliver on an enlarged mandate.¹²³
72. **The GCA is effective and improving compliance with the GSCOP Code. We recognise that it does the best it can with the limited resources provided to it by Government, but the GCA's role is too limited to stand up for growers effectively.**
73. *The GSCOP code must be refreshed to embed the 7 Golden Rules identified by the GCA. The CMA must review the scope and remit of the GCA to examine whether the powers the GCA has are appropriate for a wider scope and if they should be increased to address broader supply chain relationships, including processors and wholesale purchasers. Ornamentals should be included as part of the horticultural sector supplying to retailers.*

Trade

74. The UK relies significantly on international trade both for imports of fresh fruit and vegetables and ornamental plants and plant products, and for exports. The UK's exit from the EU in 2020 has caused significant disruption for horticultural importers and exporters. The concurrence of this transition with the COVID-19 pandemic means that horticultural businesses have been forced to grapple with significant uncertainty in a complex trading environment.

The UK's reliance on trade

75. Consumers in the UK typically demand access to fresh produce all year round, including tropical and out-of-season produce. This is particularly true of fresh fruit and means that it has to be sourced overseas from countries with more suitable climates.¹²⁴ As a result, the UK is highly reliant on trade for its fresh fruit and vegetables.
76. Dr Hannah Pitt from the University of Cardiff and Dr Lydia Medland from the University of Bristol told us that there is a longstanding reliance on imports in UK horticulture, dating back decades and in some cases, centuries. One driver for this is the availability of cheaper labour overseas. Dr Medland's research found that a UK farm worker would be expected to earn around £70.70 for a seven-hour day, while in Morocco a worker growing tomatoes would earn around £5.50 per day. Such high dependency on overseas production presents a risk to food security, particularly when coupled with challenges facing growers at present that are leading some to leave the market, resulting in further declines in UK production, and further investment overseas.¹²⁵
77. The UK also relies heavily on imports for supply of ornamental plants. The value of imports in this category was £1.5 billion in 2022, a 22 per cent

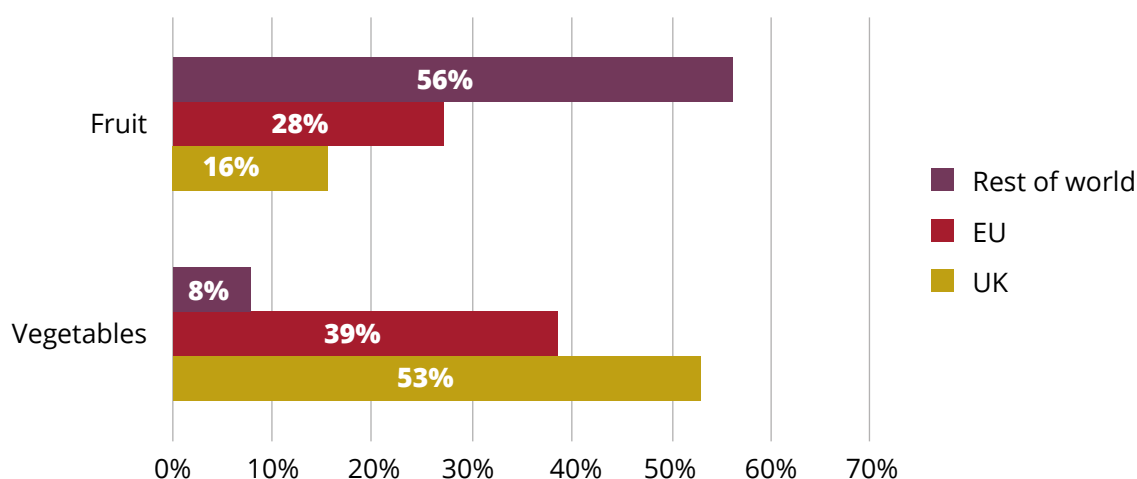
123 Q 267 (Mark White)

124 Defra, 'Food statistics in your pocket', (31 May 2023): <https://www.gov.uk/government/statistics/food-statistics-pocketbook/food-statistics-in-your-pocket> [accessed 4 September 2023]

125 Written evidence from Dr Hannah Pitt and Dr Lydia Medland (HSI0039)

increase on 2021. Exports of ornamentals were worth £49 million in 2022, a 12 per cent decrease since 2021.¹²⁶ The HTA told us that 96 per cent of its members import plant products in order to operate.¹²⁷ We were told that reasons for this include a lack of skills and investment in the UK nursery sector.¹²⁸ In 2021, the three largest value imported commodity groups (at 2021 prices) were fruit and vegetables, meat and beverages.¹²⁹

Figure 3: Origins of fresh fruit and vegetables in UK domestic consumption, 2022



Source: Defra, *Food statistics in your pocket*, (updated 20 October 2023): <https://www.gov.uk/government/statistics/food-statistics-pocketbook/food-statistics-in-your-pocket> [accessed 23 October 2023]

78. The latest figures for the horticultural sector were published in June 2023. In 2022, the UK imported vegetables at a value of £2.7 billion, a 15 per cent increase on 2021. The top countries by imports were Spain, the Netherlands, France, Morocco and Kenya. Vegetable exports were worth £85 million, 17 per cent higher than in 2021. Fruit imports cost £3.9 billion in 2022, a 4.5 per cent increase on 2021. Exports were worth £64 million, a 2.3 per cent increase. By country, imports were highest from Spain, South Africa, Peru, France and the Netherlands. Exports were highest to Ireland, the Netherlands, Hong Kong, Germany and the UAE.¹³⁰
79. The overall figures mask significant variations on a crop-by-crop basis. For example, the UK is essentially self-sufficient in root vegetables and cabbage, but produces a smaller proportion of cauliflowers, broccoli, lettuce, mushrooms and tomatoes than it did in 1990.¹³¹

126 Defra, *Horticulture statistics – 2022* (updated 13 June 2023): <https://www.gov.uk/government/statistics/latest-horticulture-statistics/horticulture-statistics-2022#section-3---trade-in-fruit-and-vegetables> [accessed 4 September 2023]

127 Written evidence from HTA (HSI0053)

128 Written evidence from the National Trust (HSI0049)

129 Defra, 'Food statistics in your pocket', (31 May 2023): <https://www.gov.uk/government/statistics/food-statistics-pocketbook/food-statistics-in-your-pocket> [accessed 4 September 2023]

130 Defra, *Horticulture statistics – 2022* (updated 13 June 2023): <https://www.gov.uk/government/statistics/latest-horticulture-statistics/horticulture-statistics-2022#section-3---trade-in-fruit-and-vegetables> [accessed 4 September 2023]

131 Defra, *UK Food Security Report 2021* (updated 22 December 2021): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1077015/United_Kingdom_Food_Security_Report_2021_19may2022.pdf [accessed 5 September 2023]

80. Trade in fresh produce has been hit by knocks to global supply chains caused by the pandemic, EU Exit and the war in Ukraine. Combined with the UK's retailer-supplier model and the impact of climate change and extreme weather in regions from which the UK typically imports, such as North Africa, this culminated in a shortage of fruits and vegetables on shelves at retailers around the country in early 2023.¹³² In light of heatwaves and wildfires attributed to climate change in the Mediterranean in the summer of 2023, this trend may continue and threaten food security further, potentially causing the cost of fresh fruit and vegetables to rise.¹³³ The West Sussex Growers Association told us that “in light of recent global events, the argument for greater self-sufficiency has probably never been stronger”.¹³⁴
81. The Food Foundation told us that UK market share of crops such as apples, broccoli, cauliflower cherries, courgettes, cucumbers, garlic, lettuce, mushrooms, onions, pears, peppers, spinach, spring onions, sweetcorn and tomatoes could be increased if there was greater investment in the sector to ease it to become more competitive and if labour supply was secure. Such investments might go into protected horticulture, such as glasshouse infrastructure.¹³⁵
82. Investment in technology may also present a solution to shortage of workers. Tim Mordan told us that automatic harvesting of strawberries could resolve labour challenges that limit productivity. He told us that crop protection and automatic harvesting has enabled UK production from March to November, contributing to self-sufficiency during this period.¹³⁶
83. Other technologies may also increase the length of the UK growing season. Jack Ward, CEO at the British Growers Association, told us that technology could support an increase in domestic production of protected edibles and out of season produce with improvements in storage techniques, for example.¹³⁷
84. Under the Agriculture Act 2020, the Government is required to present a report on food security to Parliament at least once every three years. The latest report was published in 2021 and the next will be published towards the end of 2024.¹³⁸ In July 2023, the EFRA Committee recommended that a fully updated edition of the UK Food Security Report should be published on an annual basis. The Committee also recommended that the Government should develop a suite of food security indicators and set targets against these.¹³⁹
85. This has been promised before. In August 2022 following a leadership hustings event, the now Prime Minister Rishi Sunak wrote to the NFU, committing to establish a new food security target, including a statutory

132 See ‘Why is there a shortage of tomatoes and other fruit and vegetables in the UK?’, *BBC* (24 February 2023): <https://www.bbc.co.uk/news/business-64718826> [accessed 26 October 2023]

133 ‘Mediterranean heatwave to add billions to cost of Britain’s food’, *The Times* (15 August 2023): <https://www.thetimes.co.uk/article/mediterranean-heatwave-to-add-billions-to-cost-of-britain-s-food-30sfnj879> [accessed 26 October 2023]

134 Written evidence from the West Sussex Growers’ Association ([HSI0062](#))

135 Written evidence from the Food Foundation ([HSI0035](#))

136 [Q 10](#) (Tim Mordan)

137 Written evidence from British Growers Association ([HSI0071](#))

138 Defra, *United Kingdom Food Security Report 2021*, (updated 5 October 2023): <https://www.gov.uk/government/statistics/united-kingdom-food-security-report-2021> [accessed 16 October 2023]

139 Environment, Food and Rural Affairs Committee, *Food Security* (Seventh Report of Session 2022–23, HC 622)

duty to monitor and report on domestic food production levels annually.¹⁴⁰ Minette Batters told us that this measure was the “single thing that could make a difference right now” in shoring up food security.¹⁴¹

86. The Government set out plans to boost exports following its ‘Farm to Fork’ summit at Downing Street in May 2023 through a new framework for trade negotiations and prioritisation of new export opportunities. It will also invest £2 million to boost global trade shows, provide £1.6 million funding for the GREAT food and drink campaign, and introduce five additional agri-food and drink attaches.¹⁴²
87. Mark Spencer MP highlighted the challenges of seasonality and told us there was scope to help producers become more competitive. However, he suggested that it is “important to make sure that we get the balance right between UK domestic production and the import of food”, noting that it was important not to confuse an increase in food production with greater food security, which sometimes relies on secure trading relationships to meet deficits in UK production due to, for example, a poor UK harvest or disease outbreak.¹⁴³
88. Furthermore, the Minister raised World Trade Organisation (WTO) rules as a barrier to legislating to prioritise UK produce.¹⁴⁴ WTO rules seek to prioritise fair competition and stipulate that imported and locally-produced goods should be treated equally after foreign goods have entered the market. Under the principle of predictability, the system discourages setting limits on quantities of imports.¹⁴⁵
89. **The UK is far from being self-sufficient in fruits and vegetables, and this has become worse in recent years. The Prime Minister has promised to boost domestic food production, but has so far failed to do so. There is considerable scope for halting and reversing the decline in food security if the Government set new policies and targets to do so.**
90. *We recommend in common with the EFRA Committee’s recent recommendation that the Government should develop a suite of key food security indicators—from farm inputs and retailer outputs—to monitor and ensure food security and report annually as committed to by the Prime Minister. In addition, the Government must, as a priority, define targets for food self-sufficiency and set itself statutory reporting duties against those targets together with key food security indicators. Defra should, as a matter of urgency, reconsider its interpretation of international rules and consider barriers to promoting British food.*

140 Letter from Rishi Sunak MP to Minette Batters dated 1 August 2022 (17 August 2022): <https://www.nfuonline.com/updates-and-information/nfu-writes-to-conservative-party-leadership-candidates/>

141 Q 40 (Minette Batters)

142 HC Deb, 6 May 2023, [HC WS775](#)

143 Q 276 (Mark Spencer MP)

144 *Ibid.*

145 World Trade Organization, ‘Principles of the trading system’: https://www.wto.org/english/thewto_e/whatis_e/tif_e/fact2_e.htm [accessed 11 September 2023]

Buying British

91. Over the last thirty years, consumer preferences have shifted away from seasonal British produce towards year-round supply of out-of-season fruit and veg.¹⁴⁶ Dominic Morrey told us that Tesco’s customers “have come to expect full shelves pretty much 52 weeks in a year”.¹⁴⁷ In 2022, domestic production contributed just 17 per cent of the total UK supply of fruit and 55 per cent of the supply of vegetables.¹⁴⁸
92. Supermarkets are therefore reliant upon imports.¹⁴⁹ The Food Foundation told us that these global supply chains are highly vulnerable to climate risks and water stress.¹⁵⁰ In effect, this means that by demanding year-round access to more out of season produce, the UK is exporting environmental damage overseas while we fail to take advantage of the capacity to produce more high-quality horticultural produce at home.
93. Tesco told us that customers are alert to what is locally sourced. Its approach, wherever possible, is to grow and source products in the UK if they can be grown sustainably from an environmental and economic standpoint.¹⁵¹ Tesco told us that it would follow up with figures on this balance, however this information was not provided.
94. We have heard that more could be done to motivate consumers to buy predominantly seasonal produce from the UK.¹⁵² Contrary to Tesco’s belief, campaign group Veg Power highlighted research showing that consumers have a limited understanding of the seasonality of UK vegetables or link environmental concerns with grocery shopping habits. Eighty per cent of respondents to a YouGov and Veg Power survey in 2021 said that they would like supermarkets to do more to promote seasonal produce.¹⁵³ Researcher Rosalie Maunder from Khepera CIC and Empower to Cook CIC suggested that this could take the form of stricter labelling on imported produce and clearer British produce marketing.¹⁵⁴
95. The prescriptive nature of standards set by supermarkets is hampering the sale of British produce. Professor Rebecca Cassidy from Goldsmiths, University of London, told us that they apply “rigid standards on growers, and are easily able to substitute imported crops where they feel these standards have not been met”.¹⁵⁵ OxCAN told us about top fruit growers producing smaller apples due to drought conditions, resulting in over 30 per cent of their crop being discarded due to stringent supermarket specifications.¹⁵⁶ Sustain warned that prolonged drought is likely to impact the sale of British crops longer-term and increase food waste. It suggested that supermarkets

146 Defra, *UK food security report 2021: Theme 2: UK food supply sources* (updated 22 December 2021): <https://www.gov.uk/government/statistics/united-kingdom-food-security-report-2021/united-kingdom-food-security-report-2021-theme-2-uk-food-supply-sources> [accessed 5 September 2023]

147 [Q 260](#) (Dominic Morrey)

148 Defra, *Horticulture statistics - 2022* (updated 13 June 2023): <https://www.gov.uk/government/statistics/latest-horticulture-statistics/horticulture-statistics-2022#key-messages> [accessed 4 September 2023]

149 Defra, *UK food security report 2021: Theme 2: UK food supply sources* (updated 22 December 2021): <https://www.gov.uk/government/statistics/united-kingdom-food-security-report-2021/united-kingdom-food-security-report-2021-theme-2-uk-food-supply-sources> [accessed 5 September 2023]

150 Written evidence from the Food Foundation ([HSI0035](#))

151 [Q 255](#) (Dominic Morrey)

152 Written evidence from the Soil Association ([HSI0040](#))

153 Written evidence from Veg Power ([HSI0007](#))

154 Written evidence from Rosalie Maunder ([HSI0006](#))

155 Written evidence from Prof Cassidy ([HSI0025](#))

156 Written evidence from OxCAN ([HSI0056](#))

should be more flexible on product specification for food that is perfectly edible and allow for different shapes, sizes, and looks of fresh produce”.¹⁵⁷

96. Comparable self-sufficiency data on ornamental plants is not included in Defra’s annual horticulture statistics. The value of ornamental imports was £1.5 billion in 2022, a 22 per cent increase.¹⁵⁸ Just as globally produced fruits and vegetables are expected year-round, so too are non-native and/or tropical houseplants. Jo Lambell, Founder of online retailers Beards and Daisies, told us about the impact of recent inflationary pressures on energy costs to store tropical houseplants in the UK, noting that while the business is seeking to move to more UK-grown products, 95 per cent of its plants are currently imported.¹⁵⁹ George Hillier, Director of Property at Hillier Nurseries told us that “a UK-grown plant planted in the UK will do better because that is much more like the environment it was grown in”.¹⁶⁰
97. Mark Spencer MP told us that we “need to think about our choices as consumers”, suggesting the days of buying out of season strawberries are “behind us”. However, he said that he defended the right of consumers to make their own choices about what they buy and felt “blessed” to have a retail sector that enables this.¹⁶¹ Regarding ornamentals, he emphasised that “we have always imported plants”, while highlighting the trend towards buying more UK produce, particularly wedding flowers. He told us: “I certainly hope that we are seeing more thought from our consumers about where they buy their flowers and the impact that that has on the climate”.¹⁶²
98. Following his appearance before the Committee in September 2023, Defra backed calls for industry-led action to signpost customers to buy British when they shop online and will support campaigns to endorse the taste and quality of home-grown meat and dairy products, although it did not mention horticulture as part of this. The Government also confirmed that ELMS can be used to help to meet public procurement standards.¹⁶³ In addition, the Government says it is backing industry-led action to signpost customers to buy British produce when they shop online.¹⁶⁴
99. **Supermarkets should do more to promote environmentally friendly actions through encouraging consumers to buy British produce and to increase consumer awareness of seasonality.**
100. ***The Government should work with industry to launch a campaign to define what is unique and special about British produce and encourage consumers to buy more seasonal British produce.***

Biosecurity

101. Sandy Shepherd, Managing Director at Ball Colegrave, told us that biosecurity is “the fundamental thing that we worry about in our business”.¹⁶⁵

157 Written evidence from Sustain ([HSI0030](#))

158 Defra, *Horticulture statistics – 2022* (updated 13 June 2023): <https://www.gov.uk/government/statistics/latest-horticulture-statistics/horticulture-statistics-2022#section-3---trade-in-fruit-and-vegetables> [accessed 4 September 2023]

159 [Q 94](#) (Jo Lambell)

160 [Q 94](#) (George Hillier)

161 [Q 278](#) (Mark Spencer MP)

162 [Q 277](#) (Mark Spencer MP)

163 Defra, Press Release: *Plan to boost British produce on Back British Farming Day* on 13 September 2023: <https://www.gov.uk/government/news/plan-to-boost-british-produce-on-back-british-farming-day>

164 HC Deb, 13 September 2023, [HCWS1019](#)

165 [Q 233](#) (Sandy Shepherd)

102. Biosecurity refers to precautions that aim to prevent the introduction and spread of harmful organisms, including non-native pests and diseases such as insects, disease-causing organisms (pathogens) like bacteria and fungi.¹⁶⁶ Pests and pathogens spread via the movement of live plants or plant products, timber and wood packaging, dirty tools, and soil and leaf litter, but some airborne pests and pathogens can naturally cross the Channel from Europe. Furthermore, warmer weather due to climate change is assisting the establishment of invasive species and pests in the UK (see Chapter 4).¹⁶⁷ See Box 1 for further detail on invasive non-native species.

Box 1: Invasive non-native species (INNS)

It is important to differentiate between invasive non-native species (INNS) and non-native species (NNS). There are currently around 2,000 NNS in Britain and around 10-12 new species establish themselves every year. NNS are a species intentionally or unintentionally introduced outside its native range by human actions.

INNS are one of the top five drivers of biodiversity loss around the world. INNS are any non-native animal or plant that spread causing damage to the environment, economy, human health or the way we live. Climate change may increase the presence of INNS due to their ability to succeed in stressed habitats and those altered by changed climatic conditions.

In February 2023, the Government published its INNS Strategy. It recognises that INNS “threaten our biodiversity, our ecosystems, and our economy”, costing £1.84 billion per year. The strategy sets out measures to reduce establishments of non-native species by at least 50 per cent compared to 2000 levels. Specific actions include:

- Increased capacity for inspections at the border and post-border;
- Further assessment of the most high-risk routes and mechanisms for the introduction and spread of Invasive Non-Native Species; and
- Further improvements to rapid response systems.

We heard significant concern about INNS arriving through the international trade in pot plants. Buglife told us that “the introduction of INNS to ecosystems typically leads to a reduction in species richness and abundance and the degradation of the environment”. Buglife warned that species such as the New Zealand flatworm and Spanish slug can harm native wildlife, garden plants and crops.¹⁶⁸

Source: Defra, *The Great Britain Invasive Non-Native Species Strategy 2023 to 2030* (February 2023): <https://www.nonnativespecies.org/assets/Uploads/The-Great-Britain-Invasive-Non-Native-Species-Strategy-2023-to-2030-v2.pdf> [accessed 18 October 2023]; Defra, *New strategy launched to protect biodiversity and economy from non-native species* (27 February 2023): <https://www.gov.uk/government/news/new-strategy-launched-to-protect-biodiversity-and-economy-from-non-native-species> [accessed 18 October 2023]

103. Jennifer Pheasey, Director of Public Affairs at the HTA, told us that “whenever you move any good across a border, particularly if it is a sanitary

166 Forestry Commission and APHA, ‘How biosecurity can prevent the introduction and spread of tree pests and diseases’, (updated 23 August 2023): <https://www.gov.uk/guidance/prevent-the-introduction-and-spread-of-tree-pests-and-diseases> [accessed 5 September 2023]

167 Defra, Forestry Commission, Scottish Government and Welsh Government, *Plant biosecurity strategy for Great Britain (2023 to 2028)* (9 January 2023): <https://www.gov.uk/government/publications/plant-biosecurity-strategy-for-great-britain-2023-to-2028/plant-biosecurity-strategy-for-great-britain-2023-to-2028#executive-summary> [accessed 5 September 2023]

168 Written evidence from Buglife ([HSI0045](#))

or phytosanitary good, it inherently has some sort of risk attached”.¹⁶⁹ The HTA outlined its vision for biosecurity as follows:

“As no SPS agreement has been reached with the EU, a phytosanitary certificate must be used to import plants from the EU, pre-notification of all plants for planting made before importing them and a system of import inspections employed at the border. A system of border control that uses smarter risking of imports, makes best use of technology, and allows those businesses exhibiting the highest levels of biosecurity to be rewarded needs to be employed”.¹⁷⁰

104. Phytosanitary certificates prove that plants have been inspected and are free from pests and diseases. They govern movements between third countries and are issued by the Plant Health Authority. They differ from plant passports, which regulate plants and plant products moving within Great Britain.¹⁷¹
105. The Government has produced a range of strategies to tackle plant health and biosecurity following EU Exit. The January 2023 Plant Biosecurity Strategy for Great Britain 2023 to 2028 sets out how Defra, the Forestry Commission and devolved governments will collaborate to protect plant biosecurity, including trees and plant products (vegetables, fruits, wood packaging material and cut flowers). Measures include:
 - Expanding the Animal and Plant Health Agency’s (APHA) Internet Trading Unit to boost monitoring of online retailers and social media for trade in high-risk plant products;
 - The Public Engagement in Plant Health Accord, signed by 30 organisations, which pledges to engage with the public and promote positive behavioural change in relation to plant health;
 - Implementing new plant health IT systems to enhance the UK Plant Health Risk Register and boost preparedness; and
 - Working with the UK Plant Health Alliance to develop a new five-year roadmap for the Plant Healthy scheme that provides biosecurity certification to businesses.¹⁷²
106. In addition, the June 2023 International Action Plan for Plant Health builds on these ambitions and laid out the Plant Health Service’s ambitions. The Plant Health Service is made up of the four UK governments and bodies including APHA and the Forestry Commission. Its five key goals are:
 - Global pest monitoring
 - International standards and guidance

169 Q 233 (Jennifer Pheasey)

170 Written evidence from HTA ([HSI0053](#))

171 Defra, Forestry Commission, Scottish Government and Welsh Government, *Plant biosecurity strategy for Great Britain (2023 to 2028)* (9 January 2023): <https://www.gov.uk/government/publications/plant-biosecurity-strategy-for-great-britain-2023-to-2028/plant-biosecurity-strategy-for-great-britain-2023-to-2028#executive-summary> [accessed 5 September 2023]; Defra and APHA, ‘Plant health controls’, (updated 1 March 2021): <https://www.gov.uk/guidance/plant-health-controls> [accessed 5 September 2023]

172 Defra, Forestry Commission, Scottish Government and Welsh Government, *Plant biosecurity strategy for Great Britain (2023 to 2028)* (9 January 2023): <https://www.gov.uk/government/publications/plant-biosecurity-strategy-for-great-britain-2023-to-2028/plant-biosecurity-strategy-for-great-britain-2023-to-2028#executive-summary> [accessed 5 September 2023]

- Implementation, capacity development and market access
 - Research and development (R&D)
 - International engagement.¹⁷³
107. The Government's latest proposals for ensuring biosecurity at the border are outlined in the recent publication of the Border Target Operating Model (BTOM) (see para 122).
108. Furthermore, the Government says that it has worked collaboratively with devolved administrations, government bodies and non-government stakeholders to develop such strategies, recognising that “the Government cannot act alone and that we all have a collective responsibility to work together to protect our plants and trees”.¹⁷⁴
109. For example, Royal Botanic Gardens Kew, which is an arms-length body of Defra, operates a Plant Quarantine Unit, where experts provide support, expertise and training to the UK Border Force, APHA and other government border agencies regarding biosecurity risks associated with confiscated shipments of plants, seeds, and products. It is a signatory to Defra's Public Engagement in Plant Health Accord and launched a Kew Science Plant Health and Adaptation research team in 2016, in close partnership with Defra.¹⁷⁵
110. Despite this, the Woodland Trust told us that it does not agree that the UK's biosecurity regime is “world class”, suggesting that measures do not go far enough to prevent the arrival of future plant health epidemics.¹⁷⁶ One such threat is *Xylella* (see Box 2).

Box 2: *Xylella fastidiosa*

Xylella fastidiosa (*Xylella*) is a bacterial disease with many sub species and strains not known to occur in the UK. It is spread by insects that feed on the fluid carried in the xylem, the vessel of the plant which carries water. *Xylella* colonises xylem vessels and blocks them, leading to disease symptoms including wilts, diebacks, stunts and leaf scorches.

Initially found in the Americas, *Xylella* was confirmed in Europe in 2013 and has since infected cherry trees, almond trees, lavender shrubs and olive trees. It has caused significant damage to urban trees in the USA, olive production in southern Italy, and losses to citrus, coffee and grapevine production in the Americas. There are more than 300 host plants known so far although it is difficult to predict which UK plants could be vulnerable. Defra remains concerned about introduction to the UK through infected host plants imported as plants for planting.

173 Defra, *United Kingdom international action plan for plant health* (21 June 2023): <https://www.gov.uk/government/publications/uk-international-action-plan-for-plant-health/united-kingdom-international-action-plan-for-plant-health> [accessed 5 September 2023]

174 Written evidence from Defra ([HSI0087](#))

175 Written evidence from Royal Botanic Gardens Kew ([HSI0090](#))

176 Written evidence from the Woodland Trust ([HSI0019](#))

We heard about significant concerns from growers about *Xylella* surviving on host species in the UK, particularly given the frequency of imports of species that *Xylella* is known to survive on, such as fruit and nut trees, conifer and evergreen shrubs and bushes, and citrus trees and shrubs. The Woodland Trust told us that if *Xylella* “arrived at a UK nursery growing a number of those hosts, it would likely spread through the nursery decimating plants at an alarming rate at a huge financial cost to the nursery”.¹⁷⁷

Martin Hillier, Director at Hillier Nurseries, warned that responding slowly to the disease could prove fatal, citing Defra’s response to the fungal disease known as ash dieback as “the most recent example of a long line of ‘after the horse has bolted’ biosecurity strategies”. He added that “the impact of our laissez faire biosecurity has been incalculable to the UK environment, our landscape and to our horticultural industry ... The impact of slow or weak responses to these new threats would be utterly devastating.”¹⁷⁸

The Government is working to tackle these threats through various avenues. For example, Dr Lee Beniston, Associate Director for Industry Partnerships & Collaborative R&D at the Biotechnology and Biological Sciences Research Council (BBSRC), told us about its combined £13 million research project focussing on bacterial plant diseases, with *Xylella* as a national priority. The project was a collaborative effort with the National Environment Research Council (NERC), Defra and the Scottish Government.¹⁷⁹

Source: Defra UK Plant Health Information Portal, *Xylella fastidiosa*: <https://planthealthportal.defra.gov.uk/pests-and-diseases/high-profile-pests-and-diseases/xylella/> [accessed 25 July 2023]; Defra, Plant pest factsheet: *Xylella fastidiosa* (2023): <https://planthealthportal.defra.gov.uk/assets/factsheets/Xf-Plant-Pest-Factsheet-2023-March.pdf> <https://planthealthportal.defra.gov.uk/assets/factsheets/Xf-Plant-Pest-Factsheet-2023-March.pdf> [accessed 18 October 2023]

111. The Woodland Trust argues that greater self-sufficiency is the solution to challenges like *Xylella*. It argues that “the single most effective biosecurity safeguard is to reduce the need for imported plants and source all trees for planting in the UK, from stock that has been grown its entire lifespan in GB.” It suggests improving labelling for UK-grown trees that enable consumer confidence that the product they are buying is biosecure and UK-grown.¹⁸⁰

Plant Healthy Certification Scheme

112. The Plant Health Alliance is made up of organisations from across ornamental horticulture, forestry and land management including trade associations like the HTA and British Association of Landscape Industries (BALI), NGOs like the National Trust and government agencies as well as Defra.¹⁸¹ In 2019, it set out requirements for a voluntary Plant Healthy Certification Scheme for plant biosecurity. The Scheme enables businesses and organisations to be independently audited.¹⁸²

177 Written evidence from the Woodland Trust (HSI0019)

178 Written evidence from Martin Hillier, Hillier Nurseries (HSI0038)

179 Q 164 (Dr Lee Beniston)

180 Written evidence from the Woodland Trust (HSI0019)

181 Plant Healthy, ‘Plant Health Alliance’: <https://planthealthy.org.uk/plant-health-alliance> [accessed 18 October 2023]

182 Plant Healthy, ‘Plant biosecurity and Plant Healthy’: <https://planthealthy.org.uk/about> [accessed 18 October 2023]; Plant Healthy, Certification Scheme Manual (1 July 2022): <https://planthealthy.org.uk/assets/images/Plant-Healthy-Certification-Scheme-Manual-V1.2-1.pdf> [accessed 18 October 2023]

113. The Government is working with the Alliance to promote uptake and has published a five-year roadmap for the scheme including ambitions to make the logo more widely recognised, the integration of contemporary evidence and better knowledge sharing, the establishment of the Alliance as a charity to raise income, and to increase staff and compliance capabilities.¹⁸³
114. We heard support for the scheme from various organisations including the Royal Horticultural Society (RHS) and the National Trust.¹⁸⁴ Martin Hillier, Director at Hillier Nurseries, told us that the Plant Healthy accreditation scheme was a “good start” but should be compulsory and be set at a higher bar with bronze, silver and gold standards. It said that all importers and public realm procurement providers should hold this accreditation.¹⁸⁵
115. Jennifer Pheasey raised cost barriers to SMEs being involved in the scheme. She said that SMEs “have a huge amount to deal with in their businesses, as we have already discussed, and this comes at a cost”, suggesting exploration of the ways in which more businesses could be helped to gain accreditation.¹⁸⁶ The Plant Health Alliance told us that it is working to develop robust auditing systems for smaller businesses and community groups.¹⁸⁷
116. **Biosecurity is of fundamental importance, and it is essential to assess this risk during the import and export process. However current processes are unwieldy and do not account for the huge variance in plant types captured under the same risk categories.**
117. *The risk model proposed in the Border Target Operating Model should be kept under review and more clarity provided to accompany risk status updates.*
118. **The Plant Healthy Certification Scheme is a positive mechanism by which to increase biosecurity and is supported by industry. Its widespread adoption should be championed by the Government.**
119. *The Plant Healthy Certification Scheme should be compulsory, and support must be provided to ensure SMEs are supported to achieve accreditation.*
120. **Boosting the availability of UK-grown plants will further enhance the UK horticultural sector and help to support UK biosecurity.**
121. *The Government should work with industry to promote a British kitemark for UK plant products in tandem with the recommended campaign to help consumers recognise what is unique and special about British produce.*

Border Target Operating Model

122. In April 2023, the Government published its draft Border Target Operating Model (BTOM) for consultation, which sets out a plan to realise the

183 Plant Healthy, *Plant Health Alliance Five-Year Plan 2023–2027* (February 2023): <https://www.paperturn-view.com/?pid=Mjg285646&v=15> [accessed 18 October 2023]

184 Written evidence from the Royal Horticultural Society ([HSI0050](#)) and the National Trust ([HSI0049](#))

185 Written evidence from Martin Hillier, Hillier Nurseries ([HSI0038](#))

186 [Q 235](#) (Jennifer Pheasey)

187 Written evidence from the Plant Health Alliance ([HSI0094](#))

ambitions of the 2025 Border Strategy.¹⁸⁸ A final version was published on 29 August 2023, and will be progressively introduced from January 2024.¹⁸⁹

123. The scheme sets out a new approach to security controls on imports as well as sanitary and phytosanitary (SPS) controls for plants and plant products. It outlines how controls will be simplified and digitised, and highlights plans for a new Single Trade Window to streamline processes for traders so that they only need to submit information once in one place. Key features of the BTOM include the following:

- Regulated plants and plant products have been categorised into high, medium and low risk categories for imports from the EU and will be categorised for non-EU countries goods shortly. These categories are weighted against the biosecurity risks posed and are linked to different types of import controls.
- High-risk plants and plant products will need to come through a Border Control Post (BCP) or Control Point (CP) and checks will no longer take place at Points of Destination.
- Paper-based phytosanitary certificates will be replaced with digitalised versions (ePhytos).
- The Government will explore automating the document checking process.
- The Government will reduce the requirement on traders to duplicate information input as part of the prenotification process through the Import of Products, Animals, Food and Feed System (IPAFFS), and a new intelligent search function will allow traders to search for a genus, species and commodity code more easily.
- It is exploring how on-site diagnostic testing technology can reduce the waiting times of consignments at the border and will train inspectors to use pest and pathogen detection technology.
- It will remove the requirement for a Common Health Entry Document (CHED), pre-notification, for plants and plant products and other objects that are under transit or transshipment, meaning that the burden of notification requirements and biosecurity risk where the final destination of goods is not Great Britain is removed.
- The inspection process will be streamlined to ensure that consignments are appropriately risked, while the new method will prioritise inspections of commodities that pose the highest biosecurity risk.
- The Government is exploring the introduction of a new Authorised Operator Status (AOS) approach, which would allow eligible ‘trusted

188 Cabinet Office and Defra, *The Border Target Operating Model: Draft for feedback* (5 April 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1148852/The_Border_Target_Operating_Model_Draft_for_Feedback.pdf [accessed 5 September 2023]

189 Cabinet Office, *The Border Target Operating Model* (29 August 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1182464/Final_Border_Target_Operating_Model.pdf [accessed 5 September 2023]

traders' to manage their own SPS risks. This will be tested in Autumn 2023 and a pilot will be run in Q2 2024.¹⁹⁰

124. The Government says that the BTOM “will deliver benefits to businesses by creating a seamless new ‘digital’ border which harnesses new technologies and makes use of digital data to reduce processes and administrative burdens for businesses, while also protecting the UK’s biosecurity standards”.¹⁹¹ It states that the estimated impact of the BTOM on food inflation is expected to be less than 0.2 per cent across three years.¹⁹² Despite this, we have heard concerns about several elements of the new scheme.

Timing and communication

125. The original BTOM was due to be rolled out from October 2023. Following the publication of the final BTOM, it will now be rolled out from 31 January 2024 with inspection at BCPs and CPs taking place from 30 April 2024.¹⁹³
126. We support the Government’s delay to the implementation of the new regime, given the significant concern we have heard from most of the industry. Nigel Jenney, Chief Executive of the Fresh Produce Consortium, was critical of the lack of communication from Government. He argued that “we have had years to manage and plan the processes, yet everything is last minute. It appears to be poorly thought through, and ultimately the industry will pick up the pieces”.¹⁹⁴
127. In the absence of its preferred option of a full SPS agreement with the EU, which would align plant health standards, the HTA called for the Government to delay the introduction of BCPs until the final BTOM and associated guidance had been published for at least a year and the trusted trader scheme was ready. Jennifer Pheasey told us that “it is absolutely crucial for us and the supply chains that we trade with internationally to have that time to prepare.”¹⁹⁵
128. The HTA said it welcomed the delay to the introduction of checks at BCPs until 30 April 2024, although it expressed concerns the date falls in the middle of the high season for the plant trade.¹⁹⁶ Conversely, the NFU said the delays were “hugely frustrating”, raising concerns about the effective prevention of outbreaks of pests and diseases and to level the playing field with UK goods entering the EU.¹⁹⁷

190 Defra, ‘What does the Border Target Operating Model mean for plants?’, (29 August 2023): <https://planthealthportal.defra.gov.uk/trade/imports/target-operating-model-tom/what-does-the-border-target-operating-model-mean-for-plants/> [accessed 5 September 2023]

191 Written evidence from Defra (HSI0087)

192 Cabinet Office, Press Release: *New border controls to protect the UK against security and biosecurity threats and ensure smooth flow of goods* on 29 August 2023: <https://www.gov.uk/government/news/new-border-controls-to-protect-the-uk-against-security-and-biosecurity-threats-and-ensure-smooth-flow-of-goods> [accessed 26 October 2023]

193 *Ibid.*

194 Q 230 (Nigel Jenney)

195 QQ 230–234 (Jennifer Pheasey)

196 HTA, ‘Positive first steps, but the HTA urges further progress on Border Trade Plans for horticulture’, (29 August 2023): <https://hta.org.uk/news-events-current-issues/news/positive-first-steps-but-the-hta-urges-further-progress-on-border-trade-plans-for-horticulture> [accessed 11 September 2023]

197 NFU, *Border checks on EU imports delayed for fifth time* (30 August 2023): <https://www.nfuonline.com/updates-and-information/border-checks-on-eu-imports-delayed-for-fifth-time/> [accessed 26 October 2023]

Border Control Posts

129. From April 2024, border control checks will stop taking place at importers' premises (a measure in place since January 2021) and move to BCPs.¹⁹⁸ The NFU told us that "the current regime where inspections take place at the place of destination has worked well for growers, with checks conducted within an appropriate environment and in a timely fashion", however it suggested the new model may present biosecurity risks if inspections are not conducted effectively.¹⁹⁹
130. Similarly, Nigel Jenney told us that BCPs would add "no value for my industry", instead suggesting that checks should remain on industry premises so that they can add value for subsequent distribution without additional cost.²⁰⁰ The HTA estimates the cost implications for BCPs to be around £42 million, with "no material gain or benefit to our businesses".²⁰¹ British Apples and Pears warned that the policy may cause supply chain disruption leading to the possible death of trees, increased costs and "catastrophic delays".²⁰² The Government's intends to respond to its consultation on charging arrangements at BCPs by the end of 2023.²⁰³
131. We also heard concerns that the pilot of the AOS scheme should take place before BCPs come into use.²⁰⁴ The West Sussex Growers' Association told us that the current regime whereby checks are carried out at the place of destination should be extended until the AOS scheme is finalised.²⁰⁵ Following the publication of the final BTOM, both the HTA and the NFU were critical that the rollout of BCPs will take place before the pilot of the AOS is complete. The NFU also asked for greater clarity on the process by which businesses can become Control Points, including costs.²⁰⁶

Common User Charge

132. Defra is consulting on its plans to charge for eligible SPS consignments via a Common User Charge to recover operating costs. The consultation suggests that the charge could be between £20 and £43 per consignment, aside from fees for customs agents and SPS inspections.²⁰⁷
133. At present, the definition of 'consignment' is unclear as to whether it refers to a vehicle or one part of the goods within it. Nigel Jenney suggested one

198 Cabinet Office, *The Border Target Operating Model*, CP 935 (29 August 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1180789/Final_Border_Target_Operating_Model_gov.uk_version.pdf [accessed 5 September 2023]

199 Written evidence from NFU ([HSI0029](#))

200 [Q 230](#) (Nigel Jenney)

201 [Q 230](#) (Jennifer Pheasey)

202 Written evidence from British Apples and Pears Ltd ([HSI0063](#))

203 Defra, *Charging arrangements at government-run border control posts* (updated 29 September 2023): <https://www.gov.uk/government/consultations/charging-arrangements-at-government-run-border-control-posts> [accessed 16 October 2023]

204 Written evidence from NFU ([HSI0029](#))

205 Written evidence from WSGA ([HSI0062](#))

206 HTA, 'Positive first steps, but the HTA urges further progress on Border Trade Plans for horticulture', (29 August 2023): <https://hta.org.uk/news-events-current-issues/news/positive-first-steps-but-the-hta-urges-further-progress-on-border-trade-plans-for-horticulture> [accessed 18 October 2023]; NFU, 'Border checks on EU imports delayed for fifth time', (30 August 2023): <https://www.nfonline.com/updates-and-information/border-checks-on-eu-imports-delayed-for-fifth-time/> [accessed 18 October 2023]

207 Defra, *Charging arrangements at government-run border control posts* (12 June 2023): <https://www.gov.uk/government/consultations/charging-arrangements-at-government-run-border-control-posts> [accessed 5 September 2023]

vehicle with 40 or 50 products could cost as much as £2,000 if the latter, which may drive SMEs “out of existence”. Alternatively, such additional costs may be passed on to consumers.²⁰⁸

Risk-based approach

134. Under the BTOM, a new risk-based approach to border controls will include a harmonised regime for EU and non-EU countries in which the lowest-risk goods will be exempt from border controls and phytosanitary certificates but may be subject to enhanced inland monitoring. The risk categories for plants and plant products from the EU were published in August 2023 and categorisations for goods from the rest of the world will be published in due course. Low-risk goods include most fruit, vegetables and cut flowers. These will be exempt from systematic controls and will not require certification or pre-notification.²⁰⁹
135. The BTOM sets out that the frequency of ID and physical checks for plants for planting and produce with an identified pest or disease risk will reduce to between 3 and 5 per cent for most produce with exceptions where specific risk factors apply, rising to between 5 and 100 per cent for the highest risk products.²¹⁰
136. Jennifer Pheasey told us that there were inherent challenges in this system. For example, she suggested that “a single petunia has the same risk profile as a fully mature oak tree, which inherently does not make sense”.²¹¹ Nigel Jenney told us that the risk-based system was easy to understand and “may well manage biosecurity, but they will outprice our food availability at a cost that we can’t afford”. He suggested that existing industry measures are more effective and asked that the risk-based approach should be accompanied by an online portal to allow businesses in the sector to see greater detail about trading activity.²¹²
137. Following the publication of the final BTOM, the NFU asked why checks would take place on just 30 per cent of high-risk plants sold at retail compared to 100 per cent of the same plants for commercial production in UK nurseries. It said this could lead to greater risks of disease outbreak.²¹³ Mark Spencer MP reassured us that the new model would remove barriers to trade and “expedite the process where we are safe but to put in regulation where there could be a problem”.²¹⁴
138. We also heard that groupage is likely to further complicate how consignments are inspected.²¹⁵ Groupage is the combination of consignments from multiple suppliers within one vehicle. Nigel Jenney told us that it was wrong to “assume that you can simply stop one vehicle and it will be a minor intrusion; it will

208 [Q 230](#) (Nigel Jenney)

209 See Defra, ‘TOM risk categorisations’, (August 2023): <https://planthealthportal.defra.gov.uk/trade/imports/target-operating-model-tom/tom-risk-categorisations> [accessed 5 September 2023].

210 Cabinet Office, *The Border Target Operating Model*, CP 935 (29 August 2023), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1182464/Final_Border_Target_Operating_Model.pdf [accessed 19 October 2023]

211 [Q 234](#) (Jennifer Pheasey)

212 [Q 233](#) (Nigel Jenney)

213 NFU, ‘The Border Target Operating Model – read the NFU’s response’, (30 August 2023): <https://www.nfuonline.com/updates-and-information/the-border-target-operating-model/> [accessed 19 October 2023]

214 [Q 279](#) (Mark Spencer MP)

215 [Q 234](#) (Nigel Jenney)

affect many businesses on a very regular basis”.²¹⁶ The final BTOM states that the Government “will work with importers and logistics firms who move mixed consignments to ensure complexity and cost is minimised under the new model”.²¹⁷

Digitalisation

139. The need for processes to be digitalised to enable better communication with the sector was a common theme in evidence to our inquiry. We were told that IT failures were leading to paper-based systems being used as a backup in trade processes. Sandy Shepherd from Ball Colegrave described the following scenario:

“Think of the number of times we have to get pieces of paper by not embracing digitalisation. We are dealing with tens of thousands of products. There is a real example of trying to export to Ireland. Bearing in mind that our goods are very perishable, we have to pick the order first and put them into trolleys. The inspector comes along to say it is okay, and then he communicates with York that the product is okay. Guess what? We cannot go up and collect it. We have to get it printed out at York and mailed down to us. We may get it the next day or the day after, and the goods are declining in quality every day. That is what is going on in this country. I am sorry, but it is just crazy.”²¹⁸

140. We heard support for the introduction of better digitalisation in the import process. The All-Party Parliamentary Gardening and Horticulture group said that ePhytos would be welcomed in tandem with a robust biosecurity regime.²¹⁹

The Windsor Framework

141. The Windsor Framework was agreed in February 2023 and set out arrangements to ensure smooth trade within the UK internal market.²²⁰ Since 1 October 2023, businesses are able to move prepacked retail goods as well as some loose goods including fruit and vegetables through a ‘green lane’ to Northern Ireland under the new Retail Movement Scheme.²²¹
142. The BTOM confirms that checks and controls will be introduced for Irish goods moving from Ireland to Great Britain. In accordance with the Windsor Framework, Northern Ireland businesses will retain unfettered access to Great Britain, whether moving qualifying NI goods directly from Northern Ireland or indirectly through Irish ports. This applies except for a limited

216 Q 230 (Nigel Jenney)

217 Cabinet Office, *The Border Target Operating Model*, CP 935 (29 August 2023), Annex E: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1182464/Final_Border_Target_Operating_Model.pdf [accessed 19 October 2023]

218 Q 234 (Sandy Shepherd)

219 Written evidence from the All-Party Parliamentary Gardening and Horticulture Group (HSI0041)

220 See HM Government, *The Windsor Framework: a new way forward*, CP 806 (February 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1138989/The_Windsor_Framework_a_new_way_forward.pdf [accessed 19 October 2023]

221 Defra, *Northern Ireland Retail Movement Scheme: how the scheme will work* (updated 1 September 2023): <https://www.gov.uk/government/publications/retail-movement-scheme-how-the-scheme-will-work/retail-movement-scheme-how-the-scheme-will-work> [accessed 5 September 2023]; PM’s Office, Defra, HMRC, Medicines & Healthcare Products Regulatory Agency and Department for Business & Trade, *The Windsor Framework – further detail and publications* (updated 28 July 2023): <https://www.gov.uk/government/collections/the-windsor-framework-further-detail-and-publications> [accessed 8 September 2023]

subset of goods such as endangered species. SPS requirements will need to be followed for non-qualifying SPS goods moving from Northern Ireland to Great Britain or via Ireland, depending on risk categorisation. None of the additional checks or controls in the BTOM apply to imports from the EU into Northern Ireland to provide Northern Ireland traders with full access to the EU market.²²² Mark Spencer MP told us that the “Windsor Framework has been a huge step forward”.²²³

143. **The publication of the final BTOM is welcome and we are pleased that the updated timeframe offers more opportunity to allow the horticultural sector to prepare for implementation. However, the sector continues to operate amidst serious uncertainty given a lack of clarity on timelines for digitalisation and the AOS scheme.**
144. *The Government should set out clear timelines for the integration of new and upgraded technologies. It should urgently set out its plans including costs and timeframes for the pilot and implementation of the AOS scheme to enable a seamless transition for businesses in the sector. The Government should keep the relationship between the Windsor Framework and the BTOM under review to ensure effectiveness.*
145. **Communication on the implementation of the BTOM has been poor, which has left importers feeling unsupported. The successful implementation of the BTOM must not be jeopardised by a lack of communication with industry.**
146. *The Government must communicate clearly and collaboratively with industry during implementation of the BTOM. It should make good on its promise to work with importers utilising groupage to clarify procedures and ensure complexity and cost is minimised. This should include reviewing the possibility of easements for SMEs and clearly setting out the costs associated with operating and using BCPs and CPs.*
147. **The costs of the Common User Charge could be enormous for horticultural businesses, particularly for SMEs and exporters to the UK. Yet there is no clear information on the impact on businesses or consumers and no clear definition of ‘consignment’.**
148. *The Government must define ‘consignment’ for the purposes of charges under the new model. The response to the consultation on the Common User Charge should be published as soon as possible. If it should go ahead, the charge should be reviewed regularly to ensure costs are not squeezing out small businesses.*

CITES

149. The UK is a signatory to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). It includes plant species such as

222 Cabinet Office, *The Border Target Operating Model*, CP 935 (29 August 2023), Annex E: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1182464/Final_Border_Target_Operating_Model.pdf [accessed 19 October 2023]

223 [Q 280](#) (Mark Spencer MP)

cacti, orchids, and cyclamen.²²⁴ Under the BTOM, species covered by the CITES will need to continue to meet existing import requirements.²²⁵

150. We have heard that there are issues in how CITES is applied in the UK. The system is primarily paper-based, which results in time delays and in some cases the destruction of consignments that have mistakenly not received a wet stamp.²²⁶ For example, Tammy Woodhouse, Managing Director at Millbrook Garden Company and Chairman of the Garden Centre Association, told us that the rules have led to plants such as Cacti being impounded and destroyed at ports, which is “costly and wasteful for all growers and retailers”.²²⁷
151. The HTA called for processes to enable faster turnaround times for issuing permits and removing the necessity for hauliers to physically stop for a wet stamp.²²⁸ We are not aware that this has been done at the time of the publication of this report. Jennifer Pheasey called for digitalisation of the system, which she described as “a fundamentally antiquated system that we could quite easily take action on to improve and make fit for purpose”.²²⁹
152. In the UK, CITES imports require an import permit, which the HTA argues is unnecessary and could be removed to reduce administrative burdens and the duplication of information already included on the CITES permit.²³⁰ The All-Party Parliamentary Gardening and Horticulture Group told us that the “approach to CITES has locked the industry in inflexible and inefficient administrative processes”.²³¹
153. Defra says Border Force has increased numbers in their team specialising in CITES.²³² It has been reported in trade media that Defra is introducing a new IT system for CITES, which will be rolled out in the summer and is intended to improve administration turnaround times. Defra is also reportedly scoping the introduction of digital permits.²³³
154. **Ineffective CITES processes and costs are inhibiting effective imports of plant species into the UK and leading to the destruction of legitimately traded plants.**
155. ***CITES processes should be digitalised and import permits should be scrapped to reduce duplication of paperwork. The administrative cost of obtaining a CITES permit should be reviewed to allow SMEs to trade effectively. A more flexible mechanism must be put in place to protect legitimately traded plants being destroyed due to incorrect paperwork. In the case of no-fault destruction of consignments, the Government should consider a mechanism to reimburse growers.***

224 See Animal and Plant Health Agency and Defra, *Import or export endangered species: check if you need a CITES permit* (updated 20 May 2022): <https://www.gov.uk/guidance/cites-imports-and-exports> [accessed 11 September 2023].

225 Cabinet Office, *The Border Target Operating Model*, CP 935 (29 August 2023), Annex E: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1182464/Final_Border_Target_Operating_Model.pdf [accessed 19 October 2023]

226 Written evidence from HTA ([HSI0053](#))

227 Written evidence from Tammy Woodhouse ([HSI0079](#))

228 Written evidence from HTA ([HSI0053](#))

229 [Q 231](#) (Jennifer Pheasey)

230 *Ibid.*

231 Written evidence from the All-Party Parliamentary Gardening and Horticulture Group ([HSI0041](#))

232 Written Answer [UIN 182626](#), Session 2022–23

233 ‘CITES ‘frustration’ continues as Government blocks cacti imports’, *HortWeek* (29 March 2023): <https://www.hortweek.com/cites-frustration-continues-government-blocks-cacti-imports/ornamentals/article/1818053> [accessed 26 October 2023]

CHAPTER 3: “A CHRONIC SHORTAGE OF WORKERS AT ALL SKILLS LEVELS”

Education, skills, and careers

156. The horticultural sector faces “a chronic shortage of workers at all skills levels”, from pickers and packers to the next generation of farmers, to researchers working on automation technology, which the Government is confident will solve the seasonal workers shortage.²³⁴ Autumn 2023 sees the introduction of the new land management T level, a landmark new qualification for those who want to make horticulture their career. The T level will complement the training provision at other locations, such as RHS Wisley, and those backed by the Institute for Agriculture and Horticulture (TIAH). Yet without significant change at all age levels, children and young people, particularly those from diverse backgrounds, will not be empowered to choose careers in horticulture, and the shortage of workers will reverberate at all skills levels. As Mark Spencer MP told us, “if ever there was a moment in history when we needed the best and brightest young people to come into our sector, it is right now”.²³⁵

Young people

157. The horticultural skills gap starts in primary school. We heard from Dr Chris Thorogood, Deputy Director of Oxford Botanic Gardens and Arboretum, that:
- “There is little or no horticulture in many children’s education ... a survey completed in 2019 of 1,000 children between the ages of five and 16 showed that 82% could not identify an oak tree, 50% could not identify a bluebell and 42% did not recognise a dandelion ... That is deeply worrying.”²³⁶
158. The Government’s own statistics show that 78 per cent of children and young people agree that looking after the environment is important to them, and 85 per cent agree that being in nature makes them very happy.²³⁷ Many young people working in horticulture cite an early experience as crucial in sparking their interest. Lilidh Matthews, Treasurer of the Young People in Horticulture Association (YPHA), told us that in a survey of their members which asked for their earliest memory of horticulture, “the majority age that everyone put was five years old”.²³⁸ There were fears from some of our witnesses that horticulture is currently being consigned to an extra-curricular activity in schools, but optimism from Lee Connelly, the Skinny Jean Gardener, who told us that “if we can get children gardening at primary school we will have a really big generation coming up ... who will know about gardening and horticulture, and that can be a career option”.²³⁹

234 Written evidence from John Hall Consulting Ltd ([HIS0028](#))

235 [Q 275](#) (Mark Spencer MP)

236 [Q 69](#) (Dr Chris Thorogood)

237 Written evidence from the Colegrave Seabrook Foundation ([HSI0001](#)); see Natural England, *The Children’s People and Nature Survey for England: Summer Holidays 2021 (Official Statistics)* (updated 24 February 2022): <https://www.gov.uk/government/statistics/the-childrens-people-and-nature-survey-for-england-summer-holidays-2021-official-statistics> [accessed 23 October 2023].

238 [Q 128](#) (Lilidh Matthews)

239 [Q 69](#) and [Q 128](#) (Lee Connelly)

159. Secondary schools also fail to give horticultural skills and careers due attention.²⁴⁰ The Chartered Institute of Horticulture told us there is a “very poor profile of the horticultural industry in the secondary school sector as a ‘non-aspirational’ career”.²⁴¹ Tim Hughes, Head of Learning and Participation at Royal Botanic Gardens, Kew, stated that “at Kew, we get lots of primary school groups coming ... that drops off dramatically when it comes to secondary schools”.²⁴² Lilidh Matthews told us that “after primary school there is a complete gap. Really, it skips secondary school altogether, until you get to the point where you can get a formalised qualification at A-level or an equivalent.”²⁴³
160. Nonetheless, many young people are interested in taking horticultural training courses. Alex Payne, CEO of Landex, told us:
- “The number of young people from 16 to 18 entering full-time horticulture courses has been at a pretty stable level from 2019 to 2022 ... there has also been a big uptick in the numbers of those aged 19-plus, which is encouraging, and a big uptick in the numbers of apprenticeships.”²⁴⁴
161. Alex confirmed that there “is work to do on how attractive [horticulture] is and on modelling what that workforce looks like [but] there is some good news with the numbers that are physically coming through”.²⁴⁵
162. Young people who make their career in horticulture do so for many different reasons. Lilidh Matthews told us that for the members of the YPHA, it was about “people, plants, and environment” as well as “mental well-being and mental-health”.²⁴⁶ For Tayshan Hayden-Smith, founder of Grow2Know, his journey as a gardener began in the wake of the Grenfell Tower fire, when he took over a “barren, derelict bit of land, a raised bed owned by the council”.²⁴⁷ We spoke to many young people working in horticulture, from witnesses who came in to give oral evidence to research students at Wageningen University in the Netherlands, and those studying at land-based colleges in the UK. Their career paths were hugely diverse, but what they shared was a great passion for horticulture, and a sense of its importance in meeting the climate and food security challenges facing the UK and the world in the years to come.
163. **From the time that children enter school, the National Curriculum fails to give them a good basic knowledge of horticulture and horticultural skills. This failure to promote horticulture continues in post-primary education, when young people, many of whom are highly motivated by the prospect of working in a ‘green job’ or a highly skilled career in STEM, are not guided towards the horticultural sector as an opportunity to combine the two.**
164. ***Horticulture should be put on the curriculum as a stand-alone topic within the science curriculum at all Key Stages.***

240 Written evidence from Sarah Squire ([HSI0020](#)), National Trust ([HSI0049](#)) and Peter Burks, Garden Centre Association ([HSI0077](#))

241 Written evidence from the Chartered Institute of Horticulture ([HSI0026](#))

242 [Q 56](#) (Tim Hughes)

243 [Q 129](#) (Lilidh Matthews); written evidence from Sarah Squire ([HSI0020](#))

244 [Q 56](#) (Alex Payne)

245 *Ibid.*

246 [Q 127](#) (Lilidh Matthews)

247 [Q 127](#) (Tayshan Hayden-Smith)

165. *At Key Stages 3 and 4, career guidance teachers and counsellors should be given far more information about horticultural careers including those at university and research levels and to support them in pointing students to the varied opportunities available. Qualifications should be encouraged but they should not be a barrier to entry.*

Promoting diversity

166. Despite the “growing range of skilled and rewarding roles in the sector, horticulture still struggles to attract new and diverse people to the industry”.²⁴⁸ As Clare Matterson, Director General of the RHS, told us:

“It is a very un-diverse sector with respect to ethnic minorities, women, people with disabilities, and people from disadvantaged socio-economic backgrounds. We have not done well as a sector. Once again, we need to pull together better and do more”.²⁴⁹

167. Difficulties in attracting people from diverse backgrounds into the industry were understood by stakeholders as the result both of widespread structural disadvantages and perceptions of the horticultural sector. There is, for example, a correlation between green-space deprivation, income, and ethnicity; Wayne Grills, Chief Executive of BALI, told us that 57 per cent of UK adults live within five minutes’ walk of green space, but the figure is just 39 per cent for those from black, Asian and minority ethnic backgrounds, and 46 per cent for those with a household income of under £15,000.²⁵⁰ Lilidh Matthews told us that “13% of our membership said that they chose their career... because it was a job local to them” and 20 per cent “came through the family”.²⁵¹
168. Poor public transport links to rural locations and a perception that horticulture is the preserve of people with family connections are likely to act as barriers to entry to some young people, particularly when, as Kathryn Rossiter, Chief Executive of Thrive, put it, “gardening is seen as a white, middle-class leisure activity”.²⁵² Tayshan Hayden-Smith told us that when he started out as a gardener, “I did not know much about the industry itself but I knew that to have a garden you had to have money. A lot of my friends did not even have access to space”.²⁵³ Tayshan spoke of the need for “perception change” to make gardening “for everyone and accessible to everyone”, where it now seems “unattainable and unachievable”.²⁵⁴
169. The result of these barriers, according to Danny Hubbard, Education Manager at Walworth Garden, is that new entrants to horticulture are “majority white, middle-class and have a certain level of privilege that is required to undertake unpaid or low-paid training and work”.²⁵⁵ He also referred to the lack of “role models for new entrants ... who stand out as different and diverse”.²⁵⁶ There were concerns from the YPHA that where people from diverse backgrounds

248 Written evidence from the Royal Botanic Gardens, Kew ([HSI0090](#))

249 [Q 31](#) (Clare Matterson)

250 [Q 193](#) (Wayne Grills)

251 [Q 132](#) (Lilidh Matthews)

252 [Q 136](#) (Kathryn Rossiter)

253 [Q 129](#) (Tayshan Hayden-Smith)

254 *Ibid.*

255 Written evidence from Danny Hubbard, Walworth Garden ([HSI0083](#))

256 Written evidence from Walworth Garden ([HSI0083](#))

were making gains, this was “often through schemes and diversity tick-boxes, rather than actively getting into diverse communities and encouraging more people to see that it is a great career”.²⁵⁷

170. **As a result of perceived societal barriers to entry and a perception of who is welcome in the industry, the horticulture sector is missing out on talented people from diverse backgrounds. More work is needed to make horticulture truly accessible to all, and to ensure that the breadth of roles in the sector are widely known.**
171. *The Government must support The Institute for Agriculture and Horticulture to ensure that its careers programmes and schemes reach young people and new entrants from under-represented backgrounds.*

The Institute for Agriculture and Horticulture

172. The Institute for Agriculture and Horticulture (TIAH) was announced by Defra in 2020 with funding from Defra.²⁵⁸ Its purpose, according to Janet Swadling, Chief Executive of TIAH, is:

“To help address skills and labour problems, to develop a professional capability framework, to encourage lifelong learning and to act as an overarching body to help defragment the sector.”²⁵⁹

173. TIAH’s aim is to bring the industry together, but we note that it “only represents farm-to-gate production in England, not the other home nations or any other sector of horticulture”.²⁶⁰ TIAH does not represent the ornamental sector, though we note Defra’s assurance that TIAH is working with the Environmental Horticulture Group on common issues such as labour market information research.²⁶¹
174. **While the Committee welcomes the establishment of TIAH and applauds the ambition of its remit and its early successes, it is disappointed that it does not cover the ornamental sector.**
175. *The Government must expand TIAH’s remit to include the ornamental sector as soon as is feasibly possible. Any such expansion must be adequately staffed, funded, and supported.*

T Levels

176. T Levels are two-year courses which are taken after GCSE, and which are broadly equivalent to three A Levels. In addition to school or college-based learning, T Levels offer at least 315 hours of industry placement.²⁶² The first T Levels were launched in 2020. In September 2023, a new T Level in ‘Agriculture, Land Management, and Production’ was launched.²⁶³

257 Written evidence from the Young People in Horticulture Association ([HSI0068](#))

258 Defra, *The path to sustainable farming: An agricultural transition plan 2021 to 2024* (November 2020): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/954283/agricultural-transition-plan.pdf [accessed 5 September 2023]

259 [Q 41](#) (Janet Swadling)

260 Written evidence from CIH ([HSI0026](#))

261 Written evidence from Defra ([HSI0087](#))

262 DfE, *Introduction of T Levels* (updated 9 March 2023): <https://www.gov.uk/government/publications/introduction-of-t-levels/introduction-of-t-levels> [accessed 12 September 2023]

263 HM Government, ‘T Levels: Agriculture, Land Management and Production’: <https://www.tlevels.gov.uk/students/subjects/agriculture-land-management-production> [accessed 12 September 2023]

In addition to core content, students are offered at least one module of occupation-specific content. The specialisms available as part of the land-based T Level are:

- Crop and plant production
- Floristry
- Land-based engineering
- Livestock production
- Ornamental horticulture and landscaping
- Tree and woodland management and maintenance.²⁶⁴

177. In July 2023, Ofsted produced a thematic review of the first generation of T Levels (those launched in 2020). This review noted that there was “considerable work to do to improve the quality and effectiveness of T Level courses” and that student experience varied “considerably” with initial assessment of student ability “weak in most providers”, low quality teaching resources, and concerns about assessment requirements. Teachers expressed concerns that the industry placements interfered with teaching time, and Ofsted noted that the placements were of varying quality. However, Ofsted praised the practical aspects of courses, which were “generally taught well”, adding that physical resources were “good at most providers”. Prospects for students on the course were mixed: Ofsted noted that “many [students] leave before the end of the course”, but that “students who complete T Level courses generally move on to employment, apprenticeships, or higher level study”.²⁶⁵
178. Alex Payne was enthusiastic about the prospect of the land-based T Level. She told us that it had a “strong aspiration” to be “industry-led and work-based” and that “providers have worked hard to develop that capacity to allow that to happen”.²⁶⁶
179. We have heard about barriers to delivering T Levels. During our visit to Hadlow College in Kent (see Appendix 5), we heard that land-based colleges are not allowed to use their own facilities, which are often year-round commercial enterprises, to deliver the work experience element of the course. This seems illogical and will make it harder for colleges to deliver T Levels given the rurality of horticultural businesses and reliance on enough places being available at local businesses.
180. Ofsted’s thematic review suggested that knowledge of T Levels amongst the industries they are meant to serve is generally poor.²⁶⁷ We heard about the need to ensure that the new land-based T Level is advertised to potential

264 HM Government, ‘T Levels: Agriculture, Land Management and Production’: <https://www.tlevels.gov.uk/students/subjects/agriculture-land-management-production> [accessed 12 September 2023]

265 Ofsted, *T-level thematic review: final report* (20 July 2023): <https://www.gov.uk/government/publications/t-level-thematic-review-final-report/t-level-thematic-review-final-report> [accessed 12 September 2023]

266 Q 60 (Alex Payne)

267 Ofsted, *T-level thematic review: final report* (20 July 2023): <https://www.gov.uk/government/publications/t-level-thematic-review-final-report/t-level-thematic-review-final-report> [accessed 12 September 2023]

applicants and in the industry.²⁶⁸ AHDB research in 2020 suggested that horticultural industry awareness of T-Levels could be as low as 1 in 10.²⁶⁹ Janet Swadling warned that “more recent anecdotal evidence doesn’t show any change”.²⁷⁰

181. The Committee is concerned that, following the recent Conservative Party Conference in October 2023, the Government now plans to scrap both A Levels and T Levels and replace them with a single standard.²⁷¹ It is essential that education providers have certainty in order to deliver qualifications and that young people are aware of and confident in the options available to them. Furthermore, the industry must have faith in the strength of the skills pipeline to enable it to plan for the future.
182. **We welcome the introduction of a T Level in Agriculture, Land Management, and Production, but we are concerned about its shaky start. To ensure its success, Government must learn the lessons of the Ofsted T Level thematic review and listen to industry providers about what is needed to deliver courses successfully.**
183. *The Government should explain what changes they have made to the Agriculture, Land Management, and Production T Level on a “lessons learned” basis following the Ofsted thematic review of extant T Level courses.*
184. *The Agriculture, Land Management and Production T Level should be reviewed after its first year with a view to allowing land-based colleges to deliver the work-experience element of T Level courses on site.*
185. *The Government should support providers of the Agriculture, Land Management and Production T Level to raise awareness of the qualification amongst potential students and in the industry.*

Apprenticeships

186. Apprenticeships are very popular within the horticultural sector. An average of six people apply to every apprenticeship on offer, and interest in them is growing.²⁷² In 2021/22, 1,169 people started an apprenticeship in the horticultural sector, an increase of 6 per cent from 2020.²⁷³ Yet, apprentices make up just 1 per cent of total people employed by HTA member grower and garden centres, compared with 3 per cent of the overall UK workforce.²⁷⁴ There are a number of barriers both for apprentices and for industry which is preventing the apprenticeship scheme reaching its full potential.
187. The horticultural industry is dominated by SMEs, which are prevented from accessing apprenticeship levy funds in a range of ways. We heard from the HTA that the “complex design of the levy” means that it is “not cost effective”, that “options [are] too rigid”, that is “doesn’t meet employer needs” and that “training providers require[e] [a] minimum number of attendees to run the

268 Written evidence from EHG ([HSI0042](#)) and Janet Swadling ([HSI0033](#))

269 Written evidence from Janet Swadling ([HSI0033](#))

270 *Ibid.*

271 ‘Advanced British Standard: Sunak qualification will replace A-levels and T-levels’, *BBC News* (4 October 2023): <https://www.bbc.co.uk/news/education-67008206> [accessed 26 October 2023]

272 Written evidence from National Trust ([HSI0049](#))

273 Written evidence from HTA ([HSI0053](#))

274 *Ibid.*

training” but that “rural location and geographically spread out industry makes it difficult to meet the minimum threshold”.²⁷⁵

188. Harry Hall, owner and manager of the Hall Hunter Partnership, wrote to us to say that “the apprenticeship levy does not work in the berry sector”.²⁷⁶ He explained: “we do lots of training and development”, including with 1,000 seasonal workers per year, “but most of it doesn’t qualify for the apprenticeship scheme levy”. The Environmental Horticulture Group was also concerned that the apprenticeship levy cannot be used to train seasonal workers, and asked for an additional skills fund for the industry, including seasonal workers.²⁷⁷
189. There were also concerns about the appropriateness of the training offered within apprenticeships, with some stakeholders worried that individuals were not being trained in the skills required by their part of the industry. The Chartered Institute of Horticulture wrote that “apprenticeship opportunities may be limited by the narrow skillset that [apprentices] develop while embedded in a single horticultural business”.²⁷⁸ British Apples and Pears wrote that many edible horticulture businesses pay the levy but the apprenticeships on offer are “not aimed at the edible horticulture industry”, and so they are unable to benefit.²⁷⁹
190. Janet Swadling suggested that some of the apprenticeship levy could be repurposed to “allow funding for smaller bite size training relevant to the individual”, which in turn would allow them to “develop the requisite skills required by the industry”.²⁸⁰ Increased flexibility of this kind, she said, would “support bite size learning that would develop specific skills set when required” and be “more applicable to many people already in the workforce”.²⁸¹
191. **Apprenticeships at all levels are a valuable way for people to find routes into horticulture, however, at present, the apprenticeship levy is too rigid and provides poor value for money: it is not meeting the training needs of the sector. The complexity of the levy, and restrictions on who can access it and when, mean that rural SMEs are missing out on valuable opportunities to hire new apprentices and to upskill existing staff.**
192. *The Government must reform the apprenticeship levy to meet the needs of horticultural businesses. Flexibility should be introduced to support delivery of training in rural settings, for example a removal or lowering of minimum thresholds for attendees for training courses. There should be greater flexibility around the use of the apprenticeship levy to support the “bite-size learning” of specific skill sets to up-skill existing workforces. The Government must open up the apprenticeship levy to seasonal workers or provide an alternate training scheme for them to support SMEs who rely on this workforce.*

275 Written evidence from HTA ([HSI0053](#))

276 Written evidence from Hall Hunter Partnership ([HSI0023](#))

277 Written evidence from EHG ([HSI0042](#))

278 Written evidence from CIH ([HSI0026](#))

279 Written evidence from British Apples and Pears ([HSI0063](#))

280 Written evidence from Janet Swadling ([HSI0033](#))

281 *Ibid.*

Higher Education

193. Higher education courses are not serving the skills needs of the horticulture sector. Opportunities to study horticulture at a UK university have greatly diminished since 2003, the last time there was a Parliamentary inquiry in this area.²⁸² More information and recommendations on the university sector can be found in Chapter 5.
194. The Society of Chemical Industry (SCI) Horticulture Group wrote to us about the importance of developing a “plant aware” workforce which is educated and trained about plants at a higher education level.²⁸³ Such a workforce is “critical to implementing the sustainable development goals of zero hunger, good health and well-being, clean water and sanitation, affordable and clean energy, climate action and life on land”.²⁸⁴ Research from the SCI Horticulture group concluded that of 127 courses offered to students via UCAS in Plant Science/Horticulture/Botany, only one in three “had 50% of modules or more that have one score against a plant criterion”.²⁸⁵ We agree that this is “a matter of concern”.²⁸⁶
195. There have been improvements in the range of higher education courses available to those interested in studying horticulture from non-university providers. Organisations like the RHS offer master’s degrees, and Royal Botanic Garden, Kew offers a Diploma in Horticulture. Both awards were praised by Professor Geoffrey Dixon who said they “produce graduates who are capable of integrating practice with the application of science and technology”.²⁸⁷
196. The Independent Review into Labour Shortages in the Food Supply Chain found that “the provision of the next generation of entrants to the food supply chain must be seen as a matter of national importance”. The Review recommends that:
- “To fulfil this objective, further and higher education bodies should review food supply chain-related subjects to ensure courses are well resourced and that recurrent and capital funding is enhanced and protected in the long term”.²⁸⁸
197. **The higher education sector is not producing people with the skills needed to enable the horticultural sector to tackle the challenges of implementing the sustainable development goals and secure a sustainable supply of healthy food.**
198. *We encourage universities offering courses in Plant Science, Horticulture or Botany to revise their module list considering the skills needed in the sector, to ensure that their graduates are trained to meet the challenges of the industry. The Department for*

282 Environment, Food and Rural Affairs Committee, *Horticulture Research International* (Tenth Report, Session 2002–03, [HC 873](#))

283 Written evidence from the Society of Chemical Industry Horticulture Group ([HSI0057](#))

284 Written evidence from SCI Horticulture Group ([HSI0057](#))

285 *Ibid.*

286 *Ibid.*

287 Written evidence from Prof Geoffrey Dixon ([HSI0075](#))

288 Defra, *Independent Review into Labour Shortages in the Food Supply Chain* (June 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1166600/Independent_Review_into_Labour_Shortages_in_the_Food_Supply_Chain_June_2023.pdf [accessed 12 September 2023]

Education should offer advice and support on this where possible and appropriate.

199. *We support the recommendation of the Independent Review that further and higher education funding bodies should review food supply chain-related subjects to ensure courses are well resourced and that recurrent and capital funding is enhanced and protected in the long-term.*

Skilled Jobs

200. The nature of the horticultural sector is changing rapidly thanks to the speed of technological advances such as “robotics, AI, sensors, data manipulation, and controlled environment technology”.²⁸⁹ Horticulturalists, therefore, “will need to have a greater affinity for and understanding of [this] technology”.²⁹⁰ Yet estimates from TIAH suggest that the advanced digital skills gap (the skills needed to utilise automation) is around 50 per cent; and research from a UK Agri-tech Centre suggests that only half of UK farmers rate their agri-tech skills as “good”, with just 43 per cent feeling well-supported in introducing or making better use of existing technology.²⁹¹ According to TIAH’s Janet Swadling:

“Currently there is no clear vision for the future of horticulture (and its workforce), or a clear, evidence-based understanding of the current workforce capability and capacity. Without either of these, the ability and effectiveness of up-skilling is compromised as people will not necessarily be building the right skill set, and business cannot predict the demands of the future.”²⁹²

201. Long-term workforce planning is vital to ensure that the right people are being trained in the right way to keep pace with the speed of innovation. This planning is essential to capture what Alex Payne describes as “huge job opportunities” in the “high tech” space in “2030 and beyond”.²⁹³ It is also essential if horticulture is to stay competitive with other industries. Janet Swadling acknowledged that “we are in tremendous competition ... given the growth in the need for data skills and the ability to analyse the outputs of the various sorts of automation” but told us that there are “tremendous opportunities if we can sort out the industry’s image, because these are potentially careers where people can make a big difference”.²⁹⁴
202. In addition to technological skills, a rising demand was identified for people with specialist skills in plant cultivation, pest and disease management, soil management, machinery operation, and leadership and management skills.²⁹⁵ Future skills gaps could include land use policy, regulatory policy, health and safety, food safety, and biosecurity.²⁹⁶
203. **The speed of technological innovation in the horticultural sector brings with it new opportunities for innovation, and for young people**

289 Written evidence from CIH ([HSI0026](#))

290 *Ibid.*

291 Written evidence from Janet Swadling ([HSI0033](#))

292 *Ibid.*

293 [Q 55](#) (Alex Payne)

294 [Q 43](#) (Janet Swadling)

295 Written evidence from Janet Swadling ([HSI0033](#))

296 *Ibid.*

to find exciting careers. However, there is a need for long-term workforce planning to ensure a skills match between those working in the industry and the pace of innovation.

204. *The Government must produce a strategy to ensure that there are sufficient skilled workers available in key areas as recommended by the Independent Review into Labour Shortages in the Food Supply Chain.*

Seasonal workers

Government oversight

205. The seasonal worker visa (SWV; see Table 3) allows a horticulture worker from overseas to stay in the UK for six months in any 12-month period. They then must leave the UK for six months. SWV holders are not allowed to remain in the UK long-term, claim benefits, or bring their families with them.
206. Between 2019 and 2022, around 66,000 workers came to the UK via this route, without whom the industry has said it would have “collapsed”.²⁹⁷ The NFU reported £60 million in losses in 2022 due to a shortage of workers available for harvest.²⁹⁸
207. The Seasonal Worker Scheme is a separate route to the Skilled Worker visa, which is open to people applying for roles on the official Shortage Occupation List (SOL) and lasts up to five years. If a job is on the list, employers can recruit a worker from outside the European Economic Area without having to advertise the role in Britain to prove there is no suitable worker in the country. While roles including biological scientists and engineers are on the list, horticultural-specific roles are not.²⁹⁹ We took evidence from the Agricultural Industries Confederation that food and farming roles should be added to the SOL.³⁰⁰ However, a review of the list by the Migration Advisory Committee (MAC) in 2020 did not recommend adding horticultural trades, which ranked low on shortage indicators, or managers and proprietors in horticulture, citing “insufficient evidence of a UK-wide shortage”.³⁰¹
208. This is counter to the evidence that we have heard and the findings of the Independent Review of Labour Shortages in the Food Supply Chain, while in July 2023, the Chief Executive of Sainsbury’s called for those working on farms to be added to the SOL.³⁰² In its October 2023 review, the MAC again did not recommend adding agriculture, forestry and fishing or agricultural

297 Independent Chief Inspector of Borders and Immigration, *An inspection of the immigration system as it relates to the agricultural sector: May-August 2022* (December 2022): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1125411/An_inspection_of_the_immigration_system_as_it_relates_to_the_agricultural_sector_May_to_August_2022.pdf [accessed 8 September 2023]

298 Parliamentary Office of Science and Technology, *Future of Horticulture*, **POSTnote 707**, October 2023

299 Written evidence from EHG (**HSI0042**); UK Visas and Immigration, ‘Skilled Worker visa: shortage occupations’, (7 August 2023): <https://www.gov.uk/government/publications/skilled-worker-visa-shortage-occupations/skilled-worker-visa-shortage-occupations> [accessed 11 September 2023]

300 Written evidence from the Agricultural Industries Confederation (**HSI0044**)

301 Migration Advisory Committee, *Review of the Shortage Occupation List: 2020* (September 2020): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/927352/SOL_2020_Report_Final.pdf [accessed 8 September 2023]

302 ‘Prioritise farm workers or face food price rises, says Sainsbury’s boss’, *The Times* (31 July 2023): <https://www.thetimes.co.uk/article/prioritise-farm-workers-or-face-food-price-rises-says-sainsburys-boss-6mf85677g> [accessed 16 October 2023]

trades to the SOL, however it did call for the SOL to be abolished, arguing that the current system was ineffective, liable to drive down wages and leave workers open to exploitation.³⁰³

Table 3: Timeline of UK seasonal workers schemes

Year	Scheme	Details
1945–2013	Seasonal Agriculture Workers Scheme	Participants were typically students from European countries. From 2008–2014, this scheme was restricted to Romanian and Bulgarian citizens.
2014–2018	No seasonal worker scheme	During this time, the Government considered that demand could be met by EU workers (particularly from Eastern Europe) who could come to the UK without visas.
March 2019	Seasonal worker visa pilot	
December 2021	Seasonal worker visa pilot extended until 2024	

Source: House of Commons Library, *Seasonal Worker visas and UK agriculture*, [CBP 9665](#) (26 June 2023)

209. In December 2022, David Neal, the Independent Chief Inspector of Borders and Immigration, recommended that the Government undertake a review focusing on the nine objectives of the 2019 Seasonal Workers pilot.³⁰⁴ He drew particular attention to commitments on immigration control, modern slavery and labour abuse, and monitoring and reporting.³⁰⁵ The Government accepted the recommendations and said it anticipated completing the review “by April 2023”.³⁰⁶ No review has been published at the time of writing.

210. The latest figures from Defra suggest that most seasonal workers have a broadly positive experience on UK farms:

303 Migration Advisory Committee, *Review of the Shortage Occupation List* (October 2023): https://assets.publishing.service.gov.uk/media/651557b86dfda600148e37ba/Review_of_the_Shortage_Occupation_List_2023.pdf [accessed 16 October 2023]

304 Independent Chief Inspector of Borders and Immigration, *An inspection of the immigration system as it relates to the agricultural sector: May–August 2022* (December 2022): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1125411/An_inspection_of_the_immigration_system_as_it_relates_to_the_agricultural_sector_May_to_August_2022.pdf [accessed 8 September 2023]

305 *Ibid.*

306 Home Office, ‘A response to an inspection of the immigration system as it relates to the agricultural sector’, (19 December 2022): <https://www.gov.uk/government/publications/response-to-an-inspection-of-the-immigration-system-in-the-agricultural-sector/a-response-to-an-inspection-of-the-immigration-system-as-it-relates-to-the-agricultural-sector> [accessed 8 September 2023]

- 83 per cent felt that farm managers treated them equally to other workers.
- 93 per cent said they were paid in full and 99 per cent said they were paid on time.
- 85 per cent of respondents stated that the accommodation matched the description given to them prior to starting work.³⁰⁷

211. However, evidence heard by the Committee suggests a more mixed picture, with reports of workers experiencing discrimination and abuse, including the non-payment of wages and over-crowded, and poorly heated and ventilated accommodation. Clark McAllister, a PhD researcher at the Open University who worked for a season on a farm as part of his research, told us:

“A driving factor in the exploitation experienced by workers rests on the central role of supermarket retailers, and the extremely low value paid to farmers for crops ... Where farmers struggle to stay afloat through being squeezed by retailers, these costs are passed onto workers who are in turn overworked, underpaid, and exploited to bear the brunt of supermarkets’ excessive purchasing power ... the downward pressure set by supermarkets necessarily has to factor into any solution ... supermarkets simply have to pay more for crops, so that farm gate value realised is sufficient for the survival of horticultural businesses.”³⁰⁸

212. **The Seasonal Worker Scheme is vital for UK food security and the health of the horticultural sector. However, there is limited and conflicting information in the public domain about how well the scheme is operating.**

213. *The Government must publish its review of the seasonal worker route, as promised in response to the Independent Chief Inspector of Borders and Immigration’s December 2022 report. It must also respond to the Migration Advisory Committee’s latest Review of the Shortage Occupation list.*

214. *The Government should convene a meeting of retailers and the NFU, with representation from seasonal workers, to discuss the welfare issues raised in this report.*

UK seasonal workers

215. The Government’s policy is to shift seasonal horticultural labour away from migrant seasonal workers towards local workers and automation.³⁰⁹ However, during David Neal’s Inspection, he found that:

“Various farmers and farmers’ representative organisations submitted that the Home Office underestimated the efforts they had undertaken

307 Defra and Home Office, *Seasonal workers survey results 2021* (updated 15 August 2023): <https://www.gov.uk/government/publications/seasonal-workers-pilot-review/seasonal-workers-survey-results-2021> [accessed 8 September 2023]

308 Written evidence from Clark McAllister ([HSI0095](#))

309 [Q 12](#) (Tessa Jones, Tim Mordan and Gill Laishley)

to recruit from resident labour market and overestimated its ability to utilise automation. This led to frictions and frustrations on both sides.”³¹⁰

216. Janet Swadling told the Committee that “although the various technological advances are happening, they will not be immediate solutions to any labour supply problems”.³¹¹
217. The Government’s drive towards automation and utilising the local labour market does not acknowledge the reality facing many employers or local people in need of work. Grower Ali Capper told us that “I try every year to recruit local people ... but it is not realistic to expect people living in the UK, paying mortgages or rent and needing year-round work, to do this.”³¹²
218. Research undertaken by Professor Karen O’Reilly, Emeritus Professor of Sociology at Loughborough University, and Dr Sam Scott, Senior Lecturer in Geography at the University of Gloucestershire, suggests that “employers have a strong preference towards and reliance on migrant labour”, and that local people could not imagine seasonal horticultural labour offering a “positive long-term future”.³¹³
219. Employer preference for migrant workers stems from “a lack of suitable workers locally” and the perceived “qualities of the migrant workers”. Migrant seasonal workers have shown themselves willing to “put their life on hold to live on the farm”, moving to the UK “without family ties or commitments”. In many cases, this willingness stems from the “financial value gained from remitting UK wages back to lower-income home countries”, and “comparing the UK work offer with what would have been available back home”.³¹⁴
220. Local people, in contrast, had their own “social and family commitments and costs” and “generally and understandably” do not “want to live at work in caravans”. To encourage local people to take up these jobs, it would be necessary to provide affordable local housing, rural transport links, and to make the “tax and benefits system more flexible and nimble” so that people could “move in and out of work and in and out of claiming benefits without hitting bureaucratic barriers and delays”. At present, the horticulture sector is being “out-competed by other sectors of the low wage economy” in the competition for domestic workers because of these factors, but Professor O’Reilly and Dr Scott cautioned that any “increase in pay or improvement in conditions will most likely impact on food prices, and thus inflation”.³¹⁵
221. Danny Roff, Deputy Director for Food Security and Coordination at Defra, told the Committee that the lack of British people wanting to do seasonal work was part of a wider challenge of sector attractiveness which would be dealt with in the Government’s response to John Shropshire’s Independent Review.³¹⁶

310 Independent Chief Inspector of Borders and Immigration, *An inspection of the immigration system as it relates to the agricultural sector: May-August 2022* (December 2022): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1125411/An_inspection_of_the_immigration_system_as_it_relates_to_the_agricultural_sector_May_to_August_2022.pdf [accessed 8 September 2023]

311 [Q 44](#) (Janet Swadling)

312 [Q 88](#) (Ali Capper)

313 Written evidence from Prof Karen O’Reilly and Dr Sam Scott ([HSI0002](#))

314 *Ibid.*

315 Written evidence from Prof Karen O’Reilly and Dr Sam Scott ([HSI0002](#)). See also [Q 46](#) (John Shropshire).

316 [Q 287](#) (Danny Roff)

222. **If the Government is serious about recruiting a domestic labour force to seasonal work, it must address the barriers which stand in the way: poor pay and conditions in the sector, a lack of affordable rural housing, poor rural transport links, and perceived inflexibility in the tax and benefits system.**
223. *The Government must review options to make local housing and transport more affordable to ensure that local people are not discouraged from taking up seasonal work. They must also ensure that flexibility in the tax and benefits system is being properly advertised to claimants who may wish to move into work temporarily, and to ensure that government departments are communicating with one another about these opportunities.*

Seasonal worker visas

224. When the seasonal worker visa pilot was announced in March 2019, up to 2,500 visas were available.³¹⁷ This number has increased every year, but the industry has been told that the number of visas will “begin to taper down from 2023 and the sector will have to improve pay and conditions”.³¹⁸ In 2022, 38,000 visas were available.³¹⁹ In 2023, 45,000 visas were available, with a further 10,000 to be made available if necessary.³²⁰ Mark Spencer MP told us that this additional capacity had not been required as of September 2023.³²¹ In 2024, 30,000 visas will be available, with a further 10,000 available if necessary.³²²
225. Kate Roberts, Head of Policy at Focus on Labour Exploitation, told us that “we do not have a clear picture of the UK horticultural sector’s reliance on seasonal workers” and that “there are a lot of reports from workers that they had been left without work after only a short period in the UK”: those workers can then find themselves being sent home early, their visas having been terminated because there is no work for them to do.³²³ When asked whether greater flexibility might enable seasonal workers to transfer more easily between farms to avoid this situation, Mark Spencer MP told us that while this is part of ongoing conversations with the Home Office, it is essential that workers have certainty over their place of work, and can be easily located so that they are not ‘lost’ and/or exposed to exploitation due to a lack of proper oversight.³²⁴

317 Home Office and Defra, *Seasonal workers pilot review 2019* (updated 15 August 2023): <https://www.gov.uk/government/publications/seasonal-workers-pilot-review/seasonal-workers-pilot-review-2019> [accessed 16 October 2023]

318 Home Office and Defra, Press Release: *Industry given certainty around seasonal workers but told to focus on domestic workforce* on 24 December 2021: <https://www.gov.uk/government/news/industry-given-certainty-around-seasonal-workers-but-told-to-focus-on-domestic-workforce> [accessed 26 October 2023]

319 House of Commons Library, *Seasonal Worker visas and UK agriculture*, [CBP 9665](#) (26 June 2023)

320 Defra, Press Release: *Government provides boost to horticulture industry with certainty over seasonal workers* on 16 December 2022: <https://www.gov.uk/government/news/government-provides-boost-to-horticulture-industry-with-certainty-over-seasonal-workers> [accessed 26 October 2023]

321 [Q 287](#) (Mark Spencer MP)

322 Home Office and Defra, Press Release: *Industry given certainty around seasonal workers but told to focus on domestic workforce* on 24 December 2021: <https://www.gov.uk/government/news/industry-given-certainty-around-seasonal-workers-but-told-to-focus-on-domestic-workforce> [accessed 26 October 2023]

323 [Q 100](#) (Kate Roberts)

324 [Q 287](#) (Mark Spencer MP)

226. Justin Emery, Managing Director at Fruitful Jobs, told us that the current figure of 45,000 with 10,000 in reserve was “a good place to be”.³²⁵ However, the NFU’s Minette Batters told us that the UK needs 70,000 people and grower Ali Capper, said the UK needs “70-80,000 seasonal workers”.³²⁶ Ali Capper went on to say that Defra has “singularly failed to collect the data” on how many workers are needed.³²⁷
227. The Government has been heavily criticised by industry for the timing of the announcement of the availability of visas for 2022 and 2023, which happened late in December the previous year. As Ali Capper told us:
- “The decision-making around the scheme was too reactive and last minute. I have been at the blunt end of this, with a decision made on 23 December one year and 24 December another. Making decisions at Christmas is too late. Given our planning cycles, we need to know a year in advance, not a month in advance.”³²⁸
228. We have also heard criticisms about the term of the scheme and the length of the visas. The scheme is currently renewed every year, which puts some businesses under huge pressure. Mike Norris, Director of the Newey Group and member of the West Sussex Growers’ Association, told us:
- “In one of our businesses, when we would be starting to harvest in January, we had to wait until 24 December for a decision to come through on whether the pilot scheme would take place. We need a five-year rolling scheme as a minimum”.³²⁹
229. Ali Capper told us: “we need permanence and certainty. A five-year rolling scheme would be perfect”.³³⁰ A five-year rolling scheme was also supported by the Independent Review of Labour Shortages in the Food Supply Chain, the National Farmers Union, the Association of Labour Providers, British Berry Growers, and Fruit and Vegetable Alliance³³¹
230. It was generally agreed that changing the length of the seasonal worker visa from six months to nine months would, in the words of Mike Norris, “make coming to the UK more attractive” and would allow one individual to “work across multiple sectors”.³³² It would also alleviate pressure on growers. Ali Capper confirmed that growers are currently having to “recruit two or three times in a season” which is “partly due to the structure of the visa lasting only six months”.³³³ British Berry Growers told us that a nine-month visa would provide long-season berry farms “a stable and increasingly experienced and productive workforce” and prevent growers having to “replace staff with new and inexperienced workers mid-season”.³³⁴ Mark Spencer MP told us that this option was part of current conversations between Defra and the Home

325 [Q 244](#) (Justin Emery)

326 Written evidence from Focus on Labour Exploitation ([HSI0034](#)); [Q 31](#) (Minette Batters) and [Q 87](#) (Ali Capper)

327 [Q 87](#) (Ali Capper)

328 *Ibid.*

329 [Q 87](#) (Mike Norris)

330 [Q 87](#) (Ali Capper)

331 Written evidence from NFU ([HSI0029](#)), Association of Labour Providers ([HSI0037](#)), British Berry Growers ([HSI0054](#)) and FVA ([HSI0061](#)).

332 [Q 87](#) (Mike Norris). See also written evidence from CIH ([HSI0026](#)) and Martin Hillier, Hiller Nurseries ([HSI0038](#)).

333 [Q 87](#) (Ali Capper)

334 Written evidence from British Berry Growers ([HSI0054](#))

Office, however the Home Office have said that the Government has “no plans to extend the scope of the Seasonal Worker route or the maximum visa grant beyond the existing six months”.³³⁵

231. Tessa Jones told us that “on the ‘six months in 12’ rule, we are in constant dialogue with the Home Office across the whole range of elements of the visa scheme. It is a really good example of cross-governmental working.”³³⁶ Mark Spencer MP told us that Defra was in “ongoing conversations” with the Home Office regarding the extension of the visa, but that they were concerned that any extension would make visa holders “subject to certain healthcare taxation”.³³⁷ People who apply for a visa from outside the UK lasting for more than six months must pay the immigration health surcharge as part of their immigration application in order to access certain NHS services. The cost per year is £624.³³⁸ On July 2023, the Government announced that from Autumn 2023, this fee would be increased by 66 per cent to £1,035 per year.³³⁹
232. **We welcome the early announcement of the seasonal worker visa figures for 2024 but note the 33 per cent reduction in numbers. We are glad that the Government has begun to respond to industry demand for more advanced visa announcements to line-up with grower planning cycles. However, we are conscious that growers need as much certainty as possible and are concerned that the Government’s commitment to tapering the scheme may lead to delays in announcing future visa figures, thereby threatening the usefulness of the scheme to growers.**
233. *The Government must commit to data collection to understand how many seasonal workers will be needed in the UK in the short, medium, and long-term. Once these figures are collected, a seasonal workers workforce plan should be published detailing how many visas are needed and how many the Government expects to make available for the next 5, 10 and 20 years.*
234. *Even if there is flexibility on the exact number of visas available, the Government must guarantee the existence of the seasonal workers scheme, in principle, for five years at a time, as per the recommendation made in the Independent Review of Labour Shortages in the Food Supply Chain. The Government must communicate any changes to the scheme in good time to allow scheme operators and growers to plan ahead and to communicate with incoming seasonal workers.*
235. *To lower recruitment and training costs to growers, increase efficiency, and to retain and attract talent on UK farms, the seasonal worker scheme visa should be extended to nine months, and employers should bear the consequent cost of the NHS surcharge incurred after six months.*

335 [Q 287](#) (Mark Spencer MP); written Answer [UIN 195459](#), Session 2022–23

336 [Q 13](#) (Tessa Jones)

337 [Q 287](#) (Mark Spencer MP)

338 HM Government, ‘Pay for UK healthcare as part of your immigration application’,: <https://www.gov.uk/healthcare-immigration-application/how-much-pay> [accessed 12 September 2023]

339 HC Deb, 13 July 2023, [HC WS946](#)

Illegal recruitment fees

236. Under Government guidelines, when a seasonal worker is recruited to work in the UK, they should pay a visa application fee of £298 and their travel costs.³⁴⁰ Under UK law, recruitment agencies cannot charge fees for finding work.³⁴¹ However, this inquiry has heard evidence of seasonal workers being charged recruitment fees, often by companies operating abroad.³⁴² Workers often take out loans from disreputable sources (including loan sharks and organised crime gangs) to cover these fees and can get stuck in debt bondage, working to pay off the loans.³⁴³
237. Not all workers have to borrow money to come to the UK, and the amount borrowed varies. Emiliano Mellino, a journalist at the Bureau of Investigative Journalism, told us that some of the people he had spoken to as part of a series of investigations into the seasonal workers scheme had paid “£5,000 or more to come to the UK, between recruitment fees, flights, and the visa costs. Many of those workers are still paying off those debts today”.³⁴⁴ This situation becomes worse if the worker has to go home because the work at the original placement has ended.
238. Clark McAllister, a PhD researcher at the Open University told us that the prevalence of the charging of recruitment fees could have been “severely underestimated”, as “workers are pressured by brokers, under threats of arrest and deportation not to reveal that they have paid recruitment fees”, he cautioned that “workers are highly unlikely to trust inspectors or submit truthful answers to surveys in this situation”.³⁴⁵
239. Would-be seasonal workers face exploitation both from scammers pretending to be scheme operators and from staff in the foreign outposts of the scheme operators’ offices. Justin Emery told the Committee that “60% of my work now is trying to deal with exploitation abroad”, both dealing with “scammers” and making sure “our teams are not falling into the trap of taking money, because it is easy; people are desperate to come to the UK”.³⁴⁶ Fruitful Jobs closed an office in Russia and removed the staff because they found they were charging £55 for a visa.³⁴⁷
240. Online scams are also “bigger than you would think ... to protect my business, I hire a full-time social media monitor; her job is to find the fake companies that are [posting fake messages]”.³⁴⁸ On one poignant occasion, Fruitful Jobs posted on Instagram advising people not to pay the £1,500 that a fraudulent organisation purporting to be Fruitful Jobs was charging would-be seasonal workers.³⁴⁹ One person, who had paid the £1,500 fee replied: “yes, but they

340 UK Visas and Immigration, *Home Office immigration and nationality fees: 4 October 2023* (updated 15 September 2023): <https://www.gov.uk/government/publications/visa-regulations-revised-table/home-office-immigration-and-nationality-fees-4-october-2023> [accessed 23 October 2023]

341 HM Government, ‘Your rights as an agency worker’: <https://www.gov.uk/agency-workers-your-rights/fees#> [accessed 23 October 2023]

342 Written evidence from FLEX ([HSI0034](#)) and Association of Labour Providers ([HSI0037](#)); [Q 104](#) (Caroline Robinson) and [Q 107](#) (Adis Sehic)

343 Written evidence from Association of Labour Providers ([HSI0037](#))

344 [Q 204](#) (Emiliano Mellino)

345 Written evidence from Clark McAllister ([HSI0095](#))

346 [Q 243](#) (Justin Emery)

347 *Ibid.*

348 *Ibid.*

349 [Q 243](#)

sell us hope”.³⁵⁰ These scams are time-consuming for scheme operators in the UK, and potentially damaging both to their reputation and to that of the entire UK seasonal workers scheme.

241. The Association of Labour Providers (ALP) told us that “industry is not assured” that the Gangmasters and Labour Abuse Authority (GLAA) (see para 272) “competently applies due diligence in the licensing of overseas labour recruiters”.³⁵¹
242. Mark Spencer MP told us that the Government was working with the Home Office to respond to such challenges. He said that it was important that workers were not being exploited into their own country or being brought into the UK through slavery.³⁵²
243. **We have heard evidence to suggest that some seasonal workers are being charged extremely high illegal recruitment fees by scammers, criminals, and most troublingly by the overseas staff of scheme operators. This practice is damaging both to the lives and livelihoods of current and would-be seasonal workers and to the businesses and reputations of UK scheme operators.**
244. *The GLAA must, as a priority, re-establish confidence with industry that it competently applies due diligence in the licensing of overseas labour recruiters in accordance with its own guidelines. It must define legal requirements country by country and inspect against these, ensuring that there is a sustainable operational and commercial model in place that does not involve charging recruitment fees to workers, inappropriate sub-contracting, or the use of unlicensed gangmasters.*
245. *The GLAA must issue new guidance on scam adverts for UK seasonal worker schemes.*

Visa fees and taxes

246. Adis Sehic, Policy and Research Officer at the Work Rights Centre, told us that “the latest visa transparency data suggests that it costs around £129 to process a single seasonal worker visa application, but the application fee is around £259, which is just over a 100% profit”.³⁵³ The ALP suggested that “recognising the low earning potential on this route, the visa cost should reflect the processing cost”.³⁵⁴
247. The ALP wrote to suggest a series of reforms that would increase seasonal workers retained earnings at no additional cost to growers. This included a dedicated seasonal workers’ tax code whereby no income tax is levied until the worker has reached the annual tax threshold, the removal of the pension auto-enrolment obligation, and the removal of the obligation to pay National Insurance (given seasonal workers cannot access full NHS healthcare or claim benefits). They also suggested that Employer National Insurance should be allocated to refund the costs of visa and travel for seasonal workers.³⁵⁵

350 [Q 243](#)

351 Written evidence from ALP ([HSI0037](#))

352 [Q 287](#) (Mark Spencer MP)

353 [Q 104](#) (Adis Sehic)

354 Written evidence from ALP ([HSI0037](#))

355 *Ibid.*

248. **Competition for seasonal workers amongst developed nations is high, and the UK must be able to secure a supply of workers. Small reforms to visa processing fees and tax codes will allow seasonal workers to retain more of the money that they earn in the UK, making it a more attractive destination: at no additional cost to growers.**
249. *To encourage workers to return to the UK, and therefore cut training costs for UK growers, the Government should process the visas of returning seasonal workers at cost.*
250. *Reforms should be made to how seasonal workers are taxed to allow them to retain more of their earnings. A dedicated seasonal workers' tax code should be introduced under which no income tax is levied until the worker has reached the annual tax threshold. The pension auto-enrolment and National Insurance enrolment obligations should be removed. Employer National Insurance should be allocated to refund the costs of visa and travel for seasonal workers.*

Asylum

251. If online scams are left to run unchecked, there is a danger that misinformation can spread about the seasonal worker scheme being a route to asylum.³⁵⁶ Scheme operators told us that some commercial law firms and immigration advisers are advertising their services in making asylum claims amongst seasonal workers.³⁵⁷
252. Gill Laishley, Deputy Director of Farming and Primary Processing at Defra, told us that that has been a “small increase” in seasonal workers claiming asylum once they are in the UK. She explained that “to some extent that is because of the changing landscape of where the workers are coming from”.³⁵⁸
253. Scheme operators are obliged by the Home Office to ensure that over 97 per cent of sponsored workers leave the UK at the end of their permitted stay under Home Office guidance (para SE3.16).³⁵⁹ There is no exemption for workers who stay in the UK because they have claimed or been granted asylum. We have heard evidence of two scheme operators who have had their licences suspended or revoked because of workers overstaying their visas.³⁶⁰ Justin Emery told us that “Fruitful Jobs was suspended this year due to the KPIs on asylum seekers. That is purely out of our control.”³⁶¹ In February 2023, it was reported that AG Recruitment lost its licence because workers were overstaying their visa.³⁶² The ALP wrote to us to suggest that given “the ability to apply for asylum is a matter over which [scheme providers] have no control” and is “negatively impacting upon their ability” to meet the

356 [Q 243](#)

357 Written evidence from ALP ([HSI0037](#))

358 [Q 18](#) (Gill Laishley)

359 Written evidence from ALP ([HSI0037](#)); *Home Office, Workers and Temporary Workers: Guidance for sponsors* (April 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1149235/Sponsor-a-Seasonal-Worker-04-23_1.0.pdf [accessed 26 October 2023]

360 Written evidence from British Apples & Pears Limited ([HSI0063](#))

361 [Q 245](#) (Justin Emery)

362 Business & Human Rights Resource Centre, ‘UK: Decision to revoke AG Recruitment license based on non-compliance & workers’ overstay, not documented worker abuse’, (17 February 2023): <https://www.business-humanrights.org/en/latest-news/uk-decision-to-revoke-ag-recruitment-license-based-on-non-compliance-workers-overstay-not-documented-worker-abuse/> [accessed: 12 September 2023]

SE3.16 requirement, those granted asylum should not be included in this calculation.³⁶³

254. **Seasonal workers have the same right as anyone else to claim their right to asylum under Article 14 of the Universal Declaration of Human Rights. However, this should not interfere in the lawful operation of scheme operators' businesses, and scheme operators should not be penalised if one of their workers claims asylum. Scheme operators are not asylum caseworkers, and nor should they be expected to behave as such.**
255. *To protect the lawful operation of scheme operators' businesses, workers who claim asylum should not be included in the Home Office requirement that 97 per cent of sponsored workers leave the UK at the end of their stay.*

Non-enforcement of labour laws

256. Agricultural seasonal workers have been identified by the Director of Labour Market Enforcement as at “severe” risk of labour market non-compliance every year since 2018.³⁶⁴ The evidence received to this inquiry suggests that some seasonal workers face the flouting of UK employment laws and standards, including on payment of National Living Wage (NLW), raising health and safety or exploitation issues, holiday and sick pay, protection from discrimination and unfair dismissal, and working hours and conditions.
257. We spoke to three seasonal workers, all of whom had tried to report incidents of non-compliance to little avail. When Sybil Msezane found herself working “up to 18 hours a day”, she approached ACAS, only to be told that during her induction, she had “signed away [her] rights”.³⁶⁵
258. Andrey Okhrimenko told us that “the sanitary conditions in the hotel I lived in were appalling”, with “mouldy walls and floors, broken pipes and running water from the toilet”, but the HR manager at the farm “rarely tried to solve any of the problems”.³⁶⁶
259. Vadim Sardov told us: “our sponsor did not give us the names of special organisations ... people are unaware of what to do in a situation where their sponsor cannot help them”.³⁶⁷ At the farm, “someone was always shouting at workers”, so the workers contacted their sponsor, who told them to contact their employer.³⁶⁸ Vadim Sardov told us: “It was then even worse. We were told: ‘if you complain again, you will be fired and you will have to go back home’.”³⁶⁹
260. Emiliano Mellino told us that in his last investigation, more than half of the nearly 50 workers he spoke to had experienced problems making complaints

363 Written evidence from ALP ([HSI0037](#))

364 HM Government, *United Kingdom Labour Market Enforcement Annual Report 2019/20* (June 2022): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1081531/uk-labour-market-enforcement-annual-report-2019-2020.pdf [accessed 23 October 2023]

365 [Q 205](#) (Sybil Msezane)

366 [Q 207](#) (Andrey Okhrimenko)

367 [Q 205](#) (Vadim Sardov)

368 *Ibid.*

369 *Ibid.*

or found that their complaints were not addressed.³⁷⁰ Of those who responded to the Defra Seasonal Workers survey 2021, 12 per cent had filed a complaint during their stay, of which 40 per cent said it was not easy to do so, and only 44 per cent felt it was followed up.³⁷¹

261. Some witnesses to the inquiry were concerned that incidents of non-enforcement are going under-reported. This could be because workers are worried about the impact making a complaint could have on their immigration status. Andrey Okhrimenko confirmed that “many people are afraid that if they contact the farm or sponsor regarding some issue or problem, they might lose their job and not be provided with another, and eventually they would have to leave the country.”³⁷²
262. Adis Sehic told us that the Work Rights Centre would “advocate for separation between the notion of labour enforcement and immigration enforcement” because their amalgamation is “a big factor in stopping clients from reporting either to their direct employer, or indeed, to the authorities.”³⁷³
263. The ALP told us that current advice from the Home Office is to use the ‘report an immigration or border crime’ website to report a welfare concern about a seasonal worker on a farm. Having to get immigration officials involved may act as a deterrent for workers, and their power to intervene is unclear at best. ALP report that the UK Visas and Immigration Seasonal Agricultural Workers Scheme (UKVI SAWS) Compliance Team lead confirmed that welfare concerns on a farm should be reported using “the immigration crime line” and that Compliance Teams “undertake extensive training, including recognised safeguarding training”, but that “they have no power against farms”.³⁷⁴
264. A report by the Independent Chief Inspector of Borders and Immigration David Neal found that “overall the Home Office has not demonstrated that it has the mechanism or capabilities in place to assure itself that scheme operators are meeting compliance requirements”.³⁷⁵ The ALP told us that the UKVI SAWS Compliance Team has “powers to suspend and revoke sponsor licences, but no powers against farms and anything found other than modern slavery”.³⁷⁶ ALP told us it has 70 visiting compliance officers, which is one per thousand licensed sponsors.³⁷⁷
265. Representatives from scheme operators Concordia, Fruitful Jobs and Pro-Force told us that “looking across our complaints ... we run at only 1% in complaints such as those made by the three migrant workers you had here”, referring to oral evidence heard by the Committee.³⁷⁸ Given the concerns

370 [Q 205](#) (Emiliano Mellino)

371 Defra and Home Office, *Seasonal workers survey results 2021* (updated 15 August 2023): <https://www.gov.uk/government/publications/seasonal-workers-pilot-review/seasonal-workers-survey-results-2021> [accessed 8 September 2023]

372 [Q 205](#) (Andrey Okhrimenko)

373 [Q 104](#) (Adis Sehic). See also written evidence from Clark McAllister ([HSI0095](#)).

374 Written evidence from ALP ([HSI0037](#))

375 Independent Chief Inspector of Borders and Immigration, *An inspection of the immigration system as it relates to the agricultural sector: May-August 2022* (December 2022): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1125411/An_inspection_of_the_immigration_system_as_it_relates_to_the_agricultural_sector_May_to_August_2022.pdf [accessed 8 September 2023]

376 Written evidence from ALP ([HSI0037](#))

377 *Ibid.*

378 [Q 238](#)

about under-reporting and the response met by workers who do complain, this is perhaps not surprising. We note that of 25 compliance visits conducted by Home Office officials between June 2021 and February 2022, at which 903 seasonal workers were interviewed, “significant issues” were raised at 13 visits, and inspectors noted that there were “serious or alarming concerns” arising from welfare issues on other visits.³⁷⁹

266. David Neal told us that “it is not clear what action was taken as a result of that information. At best, it was fed back to operators several months later and at worst, nothing was done with it”.³⁸⁰ Most commonly, this information related to poor quality accommodation, and included the non-payment of wages, workers not being issued with personal protective equipment, and not having access to healthcare.³⁸¹
267. Mark Spencer MP told us that while there will always be unscrupulous individuals, he recognised that on UK farms, workers are “well looked after”. He added that the Government was “working very hard” to make sure that seasonal workers were not subject to exploitation.³⁸²
268. **Seasonal workers work in the UK for a short time, but for the time that they are here, they are owed the full protection of existing UK employment laws and standards. For some, that protection has been lacking, leaving them open to labour abuse. Routes to redress for workers are limited, and when they do report exploitation, the effectiveness of enforcement is curtailed by the coupling of labour market with immigration enforcement, and a jumbled mix of bodies responsible for carrying out enforcement.**
269. *The Government must separate labour inspectorates from immigration enforcement and make clearer the roles and responsibilities of current enforcement bodies including the Home Office. The Government must provide an official source of redress to seasonal workers that is not linked to immigration.*
270. *Seasonal workers should be informed of their right to join a trade union during the recruitment process and upon their arrival to the UK and should be signposted to other sources of support.*
271. *A compulsory welfare spot-check should be introduced between month three and six at farms that host seasonal workers, during which a selection of workers should be interviewed by the GLAA/ Home Office to ensure that welfare standards are being upheld on the farm. This interview should be available in the first language of the workers, and it should be made clear that it has no link to their immigration status and is totally anonymous and confidential.*

379 Independent Chief Inspector of Borders and Immigration, *An inspection of the immigration system as it relates to the agricultural sector: May-August 2022* (December 2022): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1125411/An_inspection_of_the_immigration_system_as_it_relates_to_the_agricultural_sector_May_to_August_2022.pdf [accessed 8 September 2023]

380 [Q 114](#) (David Neal)

381 Independent Chief Inspector of Borders and Immigration, *An inspection of the immigration system as it relates to the agricultural sector: May-August 2022* (December 2022): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1125411/An_inspection_of_the_immigration_system_as_it_relates_to_the_agricultural_sector_May_to_August_2022.pdf [accessed 8 September 2023]

382 [Q 287](#) (Mark Spencer MP)

Worker accommodation should also be inspected. Inspectors should have the power to fast-track cases of non-compliance with existing labour laws to the relevant bodies.

The role of the GLAA

272. The Gangmasters and Labour Abuse Authority (GLAA) was established in 2005 following the Morecambe Bay tragedy on 5 February 2004, when at least 21 Chinese migrant workers drowned when harvesting cockles off the Lancashire coast.³⁸³ It is an executive non-departmental public body, with £6.6 million of funding by the Home Office in 2022–23, a figure that the GLAA has recognised as posing a significant challenge to its ability to deliver on its remit.³⁸⁴ The GLAA’s responsibility is to “protect vulnerable and exploited workers” through investigating “reports of worker exploitation and illegal activity such as human trafficking, forced labour and illegal labour provision, as well as offences under the National Minimum Wage and Employment Agencies Acts”.³⁸⁵ The GLAA currently provides licences for 443 businesses that supply workers to the horticulture sector and seasonal worker scheme operators and labour providers must have a GLAA licence.³⁸⁶
273. The GLAA regulates labour providers, not employers, which means that the GLAA does not “routinely inspect” farms employing seasonal workers.³⁸⁷ The Labour Market Enforcement Strategy 2020/21 reported that 364 licence holders had not been inspected in 10 years; the GLAA said that this was either because they had no cause to investigate or because the operators held a “dormant” licence.³⁸⁸ We heard compelling evidence about the importance of introducing “proactive” monitoring for the seasonal workers scheme rather than being “complaints driven”.³⁸⁹ David Neal told us that the Home Office “really needs to raise its game and to assure itself that scheme operators are not perpetuating poor working conditions”.³⁹⁰
274. Nearly all inspections by the GLAA are intelligence led, but as described above, intelligence from workers on farms may be slow to come forward. Between 1 April 2022 and 31 March 2023, the GLAA received 15 intelligence reports (0.5 per cent of all reports) related to horticulture and investigated half of them.³⁹¹ They told us that this is comparable to the previous two years, meaning that in the past three years, the GLAA may have investigated just 21 to 24 intelligence reports related to the entire horticultural sector.³⁹² It is possible that this is partly a question of resourcing. The GLAA employs just 121 people.³⁹³ In her 2020/21 Labour Market Enforcement Strategy,

383 Q 113 (Suzanne McCarthy)

384 House of Commons Library, *Seasonal Worker visas and UK agriculture*, Research Briefing [CBP 9665](#) (26 June 2023)

385 Gangmasters & Labour Abuse Authority, ‘What we do’: <https://www.gla.gov.uk/who-we-are/what-we-do/> [accessed: 13 September 2023]

386 Q 113 (Suzanne McCarthy)

387 Written Answer [UIN 51713](#), Session 2022–23

388 HM Government, *UK Labour Market Enforcement Strategy 2020/21* (December 2021): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1040316/E02666987_UK_LMES_2020-21_Bookmarked.pdf [accessed 8 September 2023]

389 Q 109 (Caroline Robinson)

390 Q 114 (David Neal)

391 Letter from the Gangmasters and Labour Abuse Authority to the Chair of the House of Lords Horticultural Sector Committee Chair, 17 April 2023: <https://committees.parliament.uk/publications/39848/documents/194108/default/>

392 *Ibid.*

393 Q 113 (Suzanne McCarthy)

Margaret Beels, Director of Labour Market Enforcement, recommended that the GLAA and Home Office review the licensing system and budget to enable increased compliance inspections and routine visits.

275. The role and powers of the GLAA have developed since 2005, and some specially trained GLAA officers can be authorised by the Secretary of State to act as ‘labour abuse protection officers’, with similar powers to police officers.³⁹⁴ A March 2023 review of these powers by HM Inspectorate of Constabulary and Fire and Rescue Services suggested that they are a welcome addition to the GLAA remit and that enough staff have been adequately trained in this new role.³⁹⁵ However, we note that the UK has just over a quarter of the number of labour inspectors recommended by the United Nations International Labour Organisation for a country of its size.³⁹⁶
276. One of the roles of the GLAA is ensuring that seasonal workers are being paid the correct wages. Clark McAllister worked for a season on a farm as part of his PhD research and witnessed “supervisors bully workers” including having a supervisor “scream in [his] face and make obscene, vulgar gestures in attempts to intimidate me”. In addition, Clark witnessed a “recurring problem” with wage underpayment, telling us that “over the course of the season, almost all of my payslips were mis-recorded, showing significant underpayments and [had] not reflected the hours I had myself recorded each day”. He said this happened to other groups of workers who “due to limited English-language abilities felt unable to challenge these underpayments”.³⁹⁷
277. From April 2023, seasonal workers must receive 32 hours of paid employment per week and be paid at least £10.42 per hour worked (the NLW).³⁹⁸ However, it does not specify how many weeks a season they must receive this payment for, which is concerning given what we have heard about workers being sent home early, in some cases just weeks after arriving in the UK.
278. **We are concerned by reports from the Director of Labour Market Enforcement and the Independent Chief Inspector of Borders and Immigration that the Home Office is failing to assure itself that the seasonal worker scheme is not perpetuating poor working conditions. The role of the GLAA is to protect vulnerable workers, but it is not being adequately funded or staffed to the degree that it needs to be to fulfil its remit.**
279. *The GLAA must implement a system of audits, spot-checks and systematic inspections on farms that are part of the seasonal worker scheme. There should be a clear, tiered, enforceable system of penalties for those who fail to enforce labour laws. The Home Office must increase the budget of the GLAA so that it is able to fulfil its function. Some of this budget increase should be ringfenced so the*

394 Her Majesty’s Inspectorate of Constabulary, Fire and Rescue Services, *Gangmasters and Labour Abuse Authority: An inspection of the use of investigative powers by the Gangmasters and Labour Abuse Authority* (13 March 2023): <https://www.justiceinspectors.gov.uk/hmicfrs/publication-html/gangmasters-labour-abuse-authority-inspection/> [accessed 8 September 2023]

395 *Ibid.*

396 **Q 210** (Emiliano Mellino)

397 Written evidence from Clark McAllister (**HSI0095**)

398 UK Visas and Immigration, *Workers and Temporary Workers: guidance for sponsors: sponsor a seasonal worker* (updated 12 April 2023): <https://www.gov.uk/government/publications/workers-and-temporary-workers-guidance-for-sponsors-sponsor-a-seasonal-worker/workers-and-temporary-workers-guidance-for-sponsors-sponsor-a-seasonal-worker-accessible-version> [accessed 13 September 2023]

GLAA is able to hire more labour inspectors in line with the number recommended by the ILO.

280. **The Committee welcomes the announcement that all seasonal workers must be paid the National Living Wage and receive a minimum of 32 hours of paid work per week. However, given the evidence we have received about under-payment and non-payment of wages, we urge the Government to ensure that this is properly complied with. When the work at one placement comes to an end before 6 months is up, the sponsoring agency should seek to move the worker to another placement. This should not be the responsibility of the grower.**
281. ***The GLAA must proactively enforce the full payment of the National Living Wage to all seasonal workers for 32 hours a week. If the GLAA does not have the resources to do so, responsibility for this task should pass to HMRC. The Government should update the guidance to specify that this means 32 hours a week for the full six-month season.***

Accommodation

282. As the farms on which seasonal workers are located can be remote, they are often provided accommodation by their employer, often taking the form of caravans on site. The condition of these caravans can vary, and we heard evidence from numerous people that six or eight adults, often unknown to one another, were asked to share a single caravan.³⁹⁹ Vadim Sardov told us,
- “My accommodation was the worst part of my story ... There was no central heating. We could use only electrical heaters and we had to pay for electricity. The place was old, full of cracks and holes ... I had to sleep in a jacket because sometimes the temperature inside the caravan was the same as outside. One day, it was eight degrees. I was afraid almost every night that when I fell asleep, I might not wake up if the heaters turned off. Women from the other caravans had to sleep cuddled together because it was too cold ... Our working place was a big refrigerator and our living space was as cold. People were always sick. They still had to come to work.”⁴⁰⁰
283. Emiliano Mellino told us that workers were asked to pay between £60 and £85 each per week for their space in a caravan, with six people sharing the space: “altogether, they paid about £1,500 or £2,000 a month for a space smaller than a one-bed flat”.⁴⁰¹ He also told us that “several women who shared caravans with men said they felt unsafe because their doors did not have locks” and that “at least four workers” had to “share a bed with a stranger”.⁴⁰² Kate Roberts told us that research by her organisation suggested that “only 73% of workers reported having access to a working toilet” and “only 39% of them said they felt safe in their accommodation”.⁴⁰³
284. Justin Emery told us that the Home Office guideline is that farms can charge £63.70 per week for accommodation, so “a caravan at £60 a week is in the guidance ... depending on the size of caravans, they might be able

399 [Q 135](#) and [Q 203](#)

400 [Q 207](#) (Vadim Sardov)

401 [Q 207](#) (Emiliano Mellino)

402 *Ibid.*

403 [Q 107](#) (Kate Roberts)

to accommodate that many people”.⁴⁰⁴ Simon Bowyer, Chief Executive of Concordia, advised that they do three audits a year, including to check the conditions of caravans. He told us: “we usually get a lot of complaints when the weather changes”.⁴⁰⁵

285. The £63.70 rate is a government-wide policy known as the “accommodation offset rate”. It is intended to create “a wage floor for workers in employer-provided accommodation” by ensuring that their hourly rate, once accommodation charges are included, does not drop below the NLW. Rent, utilities, and laundry should be included in the charge.⁴⁰⁶ Justin Emery confirmed that “our job is to make sure that farms do not charge any extras on top of [£63.70]; that they are not charging for gas, electricity, or washing”.⁴⁰⁷ However, we heard from two former seasonal workers who did have to pay for electricity.⁴⁰⁸ Employers told the Low Pay Commission that they needed “clearer guidance over the offset”: there was “general confusion over the complexity of the calculations” and over which utilities were “essential”.⁴⁰⁹ Some employers felt that “competitors were routinely breaking the rules by charging workers extra for electricity [and] gas, and that much of this non-compliance went undetected”.⁴¹⁰
286. The Low Pay Commission has raised concerns about the interaction of the £10.10 per hour visa rate and the accommodation offset charge:
- “In principle, an employer recruiting seasonal migrant workers and obliged to pay the higher rate, can allay the extra expense by increasing the accommodation charge they recoup from the workers. As long as workers receive an hourly rate of £10.10, the employer is compliant with the visa regime ... the policy intent of the higher visa rate is undermined; the benefit to workers of higher hourly pay is removed.”⁴¹¹
287. The Commission noted that “in practice, none of the employers [they] spoke to were operating in this way” but that many “were aware of the discrepancy and some suspected that less scrupulous competitors could be taking advantage of it”. They noted that “the fact that such a manoeuvre is theoretically possible points to a large disconnect between different parts of government policy ... the immigration system and labour market regulation do not join up”.⁴¹² The £10.10 hourly rate has now been superseded by the NLW, but we have not seen evidence of more cohesion between immigration and labour market regulation.⁴¹³
288. We recognise that many farmers take the welfare of their seasonal workers and the quality of their accommodation very seriously. Mike Norris told

404 Q 238 (Justin Emery)

405 Q 238 (Simon Bowyer)

406 HM Government, ‘National Minimum Wage and Living Wage: accommodation’: <https://www.gov.uk/national-minimum-wage-accommodation> [accessed 13 September 2023]

407 Q 238 (Justin Emery)

408 Q 207 (Vadim Sardov); Written evidence from Clark McAllister (HSI0095)

409 Low Pay Commission, *National Minimum Wage: Low Pay Commission Report 2022*, CP 758 (January 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1129930/Low_Pay_Commission_Report_2022.pdf [accessed 23 October 2023]

410 *Ibid.*

411 *Ibid.*

412 *Ibid.*

413 Mark Spencer MP, Minister for Food and Farming, Speech at the National Farmers Union Conference 2023, 21 February 2023: <https://www.gov.uk/government/speeches/farming-minister-mark-spencer-national-farmers-union-conference> [accessed 5 September 2023]

us: “we invested a lot of money in ... what I would call gold-standard accommodation. To have staff, we need to accommodate them, and ensure their welfare and that they are very well looked after.”⁴¹⁴ He told us that one of the barriers for farmers in providing suitable accommodation is obtaining planning permission.⁴¹⁵ In the UK, BS 3632 sets the residential specification for static caravans. This ensures that caravans are “built to a level of quality that is suitable for year-round living, with a focus on insulation, ventilation, and overall structural integrity”. Caravans which meet this specification can be considered a residential specification caravan.⁴¹⁶

289. In October 2022, the DLUHC finalised a consultation on an extension of the Decent Homes Standard, which currently applies to social housing and is enforced by local authorities, to the private rented sector, with specific questions concerning caravans and tied accommodation. It proposes a legal duty and resources for landlords to certify compliance with a standard, backed by a criminal offence. The Low Pay Commission, which sets the accommodation offset, would “support the reinforcement of standards and the strengthening of enforcement options” and is “interested” in the consultation on the Decent Homes Standard.⁴¹⁷
290. **The Committee has heard about instances of disproportionate fees being charged for dismal accommodation on some UK farms. Under no circumstances should workers be asked to share beds with strangers, or fear for their lives in cold and wet weather. In some cases, poor living conditions appear to be exacerbated by a lack of clarity from Government on the longevity of the seasonal workers scheme and prohibitive and patchy planning rules. We were encouraged by stories of good practice and know that there are many growers who want to do right by their workers, who would benefit from more Governmental clarity on this issue.**
291. *The Home Office should issue new guidance clarifying that all caravans provided for use by seasonal workers must reach BS3632. Local authorities should be given a duty to inspect and enforce both this standard, and health and safety regulations in caravans housing seasonal workers. The new advice should clarify that only caravans with shared living space and single-occupancy bedrooms which reach BS3632 should be eligible for the maximum occupancy charge, which should not exceed the accommodation offset rate.*
292. *The DLUHC should report on the results of the consultation on extending the Decent Homes Standard to the private rented sector, including on how this standard would apply to the seasonal workers scheme.*
293. *Rental contracts for accommodation should be provided in seasonal workers’ own languages and signed and agreed ahead of their arrival in the UK.*

414 [Q 88](#) (Mike Norris)

415 *Ibid.*

416 Caravanly, ‘Residential Specification Caravans: All You Need to Know’: <https://caravanly.com/articles/residential-spec-caravans/> [accessed 19 October 2023]

417 Low Pay Commission, *National Minimum Wage: Low Pay Commission Report 2022*, CP 758 (January 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1129930/Low_Pay_Commission_Report_2022.pdf [accessed 23 October 2023]

294. **The accommodation offset rate includes rent, utilities, and laundry, but we have heard evidence that workers are being charged additional fees for these services.**
295. *The GLAA should consider how widespread this practice is, and what can be done to ensure that workers are not being charged additional fees.*
296. **There is a lack of joined-up thinking between the immigration system and labour market regulation, including in the interaction between the accommodation offset rate and the NLW.**
297. *We endorse the recommendation made by the Low Pay Commission that the Government work together to address the interaction between seasonal workers' rate of pay and the accommodation offset rate.*
298. **Many employers want to provide decent accommodation for their workers but some are being prohibited from doing so because of restrictive planning laws.**
299. *The Government should consider what flexibility can be introduced into the planning system to enable more farms to provide a higher standard of accommodation to workers.*

Automation technology

300. The Automation in Horticulture review concluded that the robotics most likely to be mass adopted are in-field rigs, packhouse automation and optimised production systems, followed by a second wave of autonomous crop protection monitoring and forecasting.⁴¹⁸
301. A range of robotics are being designed in the UK and globally for specific roles:
- The Lincolnshire Institute of Agrifood Technology (LIAT) has developed soft fruit picking robots.
 - The Small Robot Company has developed an autonomous mapping and monitoring robot to detect weeds and pests, and a precision planting robot.
 - The Butto company has designed an auto-guided small robotic wheelbarrow.
 - Saga Robotics has built a fleet of Thorvald UVC-light treatment administering robots for powdery mildew prevention.
 - Researchers at Japan's National Institute of Advanced Industrial Science and Technology have developed a pollinator drone that pollinates flowers but is not yet autonomous.⁴¹⁹

418 Parliamentary Office of Science and Technology, *Future of Horticulture*, [POSTnote 707](#), October 2023

419 *Ibid.*

302. Landseer were enthusiastic about the potential of automation to, “replace many of the basic skills and take out the mundane tasks both in the packhouse and in the field”.⁴²⁰ However, we recognise several barriers to adoption.
303. The first barrier is simply that these technologies are in their infancy; we were told to expect more widespread adoption “by 2030”, and the National Farmers Unions Scotland (NFUS) reported that the technology simply is not ready for any of their members to begin to stand down workers.⁴²¹ The second is that automation technology requires “significant investment” both in R&D and on the farm. The third challenge is these technologies require more skilled labour to operate and maintain equipment.⁴²² In addition, different crops require a different robot and robots are not available for all crops, for example harvesting fragile soft fruits that are easily bruised and damaged is difficult to automate.⁴²³
304. In addition, Professor David Rose and Kirsten Ayris, from the Change in Agriculture research group, told us about the need for digital connectivity on farms in order to remove barriers to automation.⁴²⁴ We recognise that Government is consulting on improving broadband for very hard to reach premises, which are substantially more likely to be agricultural businesses and, in particular, small scale farming establishments.⁴²⁵
305. There is a need to inform businesses about the benefits that automation can bring. Professor Alistair Griffiths, Director of Science and Collections at the RHS, referred us to a 2019 Pye Tait report, which stated that 94.4 per cent of businesses did not expect automation, robotics, or other technologies to be useful to their businesses.⁴²⁶ There appears to be a disparity between what the Government perceives as a success and messaging that is reaching the industry. When asked for examples of notable successes, Defra’s Tim Mordan cited automatic strawberry and raspberry pickers, but British Berry Growers told us that these are “even in the most advanced cases, still early in development”.⁴²⁷
306. We note the recent £3.8 million Defra award to AGRI-OPENCORE, a project to deliver robotic systems for strawberry and tomato harvesting that are “human cost parity in three years”, but it is true that some parts of the industry will see the benefits of automation before others; AGRI-OPENCORE is only developing solutions to strawberries and tomatoes. However, there are other projects in the UK or globally developing platforms for a wide range of other fruit and vegetables, both to weed and to control pests and diseases.⁴²⁸ Professor Simon Pearson, Founding Director at the Lincoln Institute of Agri-Food Technology and author of the 2022

420 Written evidence from Landseer Ltd ([HSI0011](#))

421 [Q 55](#) (Alex Payne); written evidence from National Farmers Unions Scotland ([HSI0013](#))

422 Written evidence from School of Water, Energy and Environment; School of Management at Cranfield University ([HSI0018](#))

423 Parliamentary Office of Science and Technology, *Future of Horticulture*, [POSTnote 707](#), October 2023

424 Written evidence from Professor David Rose and Kirsten Ayris ([HSI0004](#))

425 Department for Science, Innovation and Technology, *Digital Connectivity: Consultation on Improving Broadband for Very Hard to Reach* (October 2023): https://assets.publishing.service.gov.uk/media/651d79d86a695500d78b2fb/improving_broadband_for_very_hard_to_reach.pdf [accessed 16 October 2023]

426 [Q 163](#) (Prof Alistair Griffiths)

427 [Q 10](#) (Tim Mordan); written evidence from British Berry Growers ([HSI0054](#))

428 Written evidence from Prof Simon Pearson ([HSI0060](#)); Defra, Press Release: *£9.13 million awarded to develop cutting-edge farming technology* on 24 March 2023): <https://www.gov.uk/government/news/913-million-awarded-to-develop-cutting-edge-farming-technology> [accessed 23 October 2023]

Automation in Horticulture Review, suggests that this is good news given the global reduction of available synthetic chemicals to agriculture, resistance in the global weed population to glyphosate, and environmental pressure to reduce the use of pesticides.⁴²⁹

307. Replacing labour with automation “demands a high level of capital investment” which in the current climate is “unlikely to come from profits”.⁴³⁰ Professor Richard Napier from the School of Life Sciences at the University of Warwick told us that funding from UKRI for robotics and automation in farming tends to be “specific”, “short-term” and the “knowledge acquired does not get shared”. He added that the nature of these funds means that fundable projects tend to be those that offer a “short-term engineering or software fix” rather than the “underpinning, applied or strategic science” needed for longer-term projects.⁴³¹
308. Tim Mordan told the Committee that he would “like to think that [the UK is] up there in the vanguard of technology when it comes to robotics”.⁴³² But Landseer warned that the UK is “largely dependent on innovations developed in other countries that may or may not [be] transferable to our market” and that further research funding will be required to make them work.⁴³³
309. In July 2022, Professor Pearson published a landmark review on Automation in Horticulture, which proposed solutions to overcome the barriers that prohibit the sector from adopting currently available automation technologies. These include:
- A long-term seasonal workers scheme
 - A consortium of leaders to drive technology adoption
 - Launching a robotic crop harvester mission to fast-track innovative R&D
 - A review of financial and fiscal support
 - Sharing automation infrastructure best practice
 - Development of the future skills pipelines
 - Greater representation for horticulture and technology supply chain delegates at regulatory-legislative working groups on next-gen robotics.⁴³⁴
310. Professor Pearson wrote to us to say that whilst the short-term Government response to his project has been “encouraging”, “automation technologies are urgently needed to address the longer-term response to the labour supply issues”, which will require “private and public sector leadership over the long term and significant underpinning innovation investment in the development of robotic systems by government and the private sector”.⁴³⁵

429 Written evidence from Prof Simon Pearson ([HSI0060](#))

430 Written evidence from Landseer Ltd ([HSI0011](#))

431 Written evidence from Prof Richard Napier, School of Life Sciences at the University of Warwick ([HSI0012](#))

432 [Q 10](#) (Tim Mordan). See also written evidence from Prof Simon Pearson ([HSI0060](#)).

433 Written evidence from Landseer Ltd ([HSI0011](#))

434 Defra, *Automation in Horticulture review* (27 July 2022): <https://www.gov.uk/government/publications/defra-led-review-of-automation-in-horticulture/automation-in-horticulture-review#recommendations> [accessed 8 September 2023]

435 Written evidence from Prof Simon Pearson ([HSI0060](#))

311. Growers will need financial assistance to adopt automation technology, and it is important that funds are designed that do not leave horticulturists behind. In 2023, the Government has invested £168 million to increase farming productivity through grants and competitions themed around productivity, research and innovation.⁴³⁶
312. Growers can invest in equipment, technology and infrastructure to increase productivity through the Farming Investment Fund, grants from which are provided through the Farming Transformation Fund and the Farming Equipment and Technology Fund. The Government told us that it had so far paid over £32.5m to over 3,000 applicants through the Farming Equipment and Technology Fund alone.⁴³⁷ R&D funding is provided through Defra's Farming and Countryside Programme, grants for which are administered through the Farming Innovation Programme (£270 million). For example, UKRI and Innovate UK are running the Transforming Food Production Challenge (£90 million) and the Farming Innovation Investor Partnership (£5 million).⁴³⁸
313. Tim Mordan told us that horticultural projects had made up a third of funding awards in the Transforming Food Production Challenge.⁴³⁹ He explained that the Farming Equipment and Technology Fund, which has "a list of 90-plus bits of kit ... 11 of which are particularly relevant to horticulture" "went down very well with the industry"; he had earlier speculated that "some of the technology that we are funding might appear ... as applicable only to arable but it could be applicable to horticulture."⁴⁴⁰ However, there appears to be a significant gap between Government's impression of how well these funds have been received and their reception amongst the industry, particularly amongst horticulturists focussing on ornamentals.
314. In December 2022, guidance on the Farming Innovation Programme's £12.5m robotics and automation fund set out that "the competition will not cover funding for ornamental, non-food crops or wild-caught fisheries".⁴⁴¹ James Barnes told us that "only three" pieces of the equipment in the Farming Equipment and Technology Fund relate to ornamental horticulture and that other funds "specifically exclude ornamental from access".⁴⁴² Professor Alistair Griffiths described the fund as "heavily-farm focused" with "92% of the equipment listed ... for the agricultural forest sector, whereas only 8% is suitable for growers".⁴⁴³

436 Defra, 'Grants available in 2023', (2 March 2023): <https://defrafarming.blog.gov.uk/2023/03/02/grants-available-in-2023/> [accessed 11 September 2023]

437 Written evidence from Defra ([HSI0087](#))

438 Defra, Rural Payments Agency and Forestry Commission, 'Funding for farmers, growers and land managers', (updated 24 August 2023): <https://www.gov.uk/guidance/funding-for-farmers> [accessed 5 September 2023]; UKRI, 'Transforming food production challenge' (updated 28 April 2023): <https://www.ukri.org/what-we-do/our-main-funds-and-areas-of-support/browse-our-areas-of-investment-and-support/transforming-food-production-challenge/> [accessed 23 October 2023]; HM Government, 'Defra Farming Innovation Investor Partnership': <https://apply-for-innovation-funding.service.gov.uk/competition/1640/overview/da96b78e-141e-41f2-8602-d27bcc36555c> [accessed 23 October 2023]

439 [Q 283](#) (Tim Mordan)

440 [Q 6](#) (Tim Mordan)

441 Defra, *Funding available for robotics and automation in farming* (13 December 2022): <https://defrafarming.blog.gov.uk/2022/12/13/funding-available-for-robotics-and-automation-in-farming/> [accessed 8 September 2023]

442 [Q 24](#) (James Barnes)

443 [Q 163](#) (Prof Alistair Griffiths)

315. **The UK is claimed to be leading the world in horticulture automation, an innovation that provides an exciting opportunity to address labour supply issues, reduce pesticide use, and complete many of the horticulture industry's most mundane tasks. Yet barriers exist to mass adoption, and the Government must set out its approach to co-ordinating private and public leadership and funding for R&D, whilst managing ongoing labour shortfalls.**
316. *We thank Professor Pearson for his Automation in Horticulture Review, endorse its recommendations, and urge the Government to adopt them in full. The Government must publish their response to the Review, in which they outline a plan against each of Professor Pearson's recommendations, as a matter of urgency.*
317. **The horticultural sector relies on Government support to take up technological innovation through schemes like the Farming Equipment and Technology Fund, but many of these schemes are of limited use to horticulturists, particularly those in the ornamental sector.**
318. *The Farming Equipment and Technology Fund should be redesigned to make 100 per cent grants available, introduce flexibility in the technology that can be purchased, ensure that all technology applicable to both edible and ornamental horticulture is clearly listed as such, and enable provision to lease or co-own equipment to support smaller growers.*

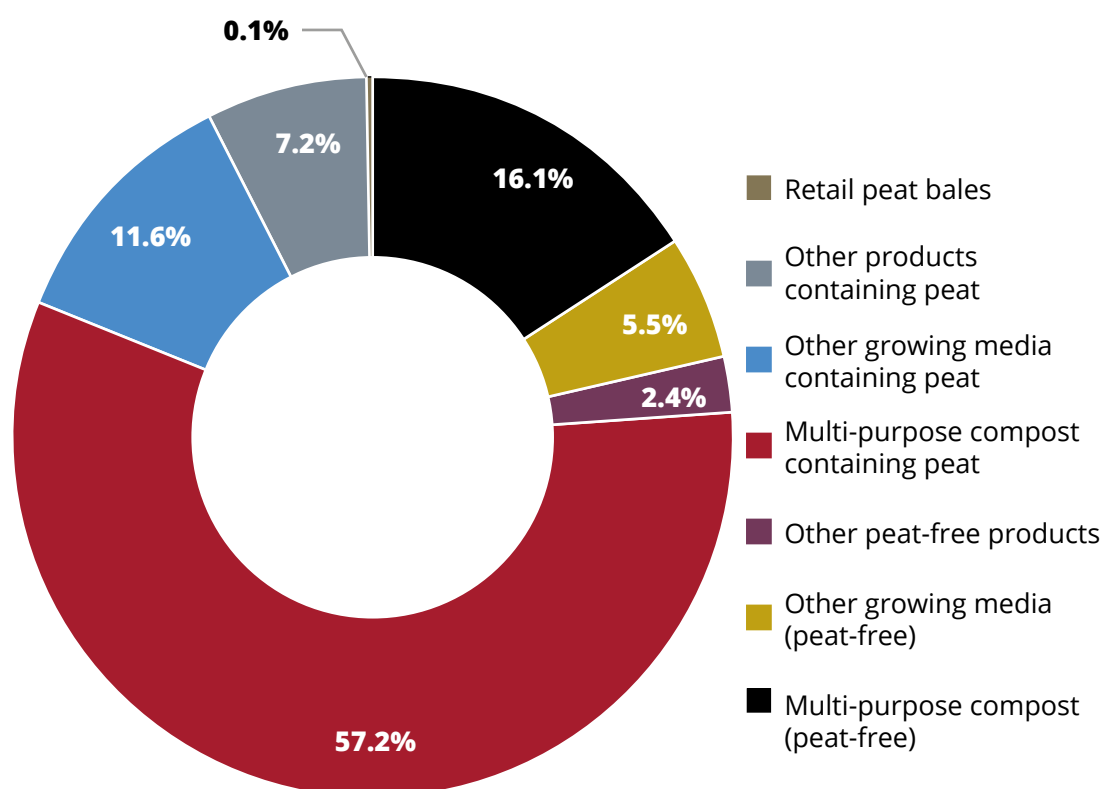
CHAPTER 4: “THE TWIN CRISES OF OUR TIMES: CLIMATE CHANGE AND BIODIVERSITY LOSS”⁴⁴⁴

319. The horticultural sector has significant capacity to underpin the Government’s net zero and environmental plans through carbon sequestration.⁴⁴⁵ However, as an energy, resource and land-intensive sector, horticultural practices can contribute directly to climate change through unsustainable practices such as agri-chemical use, peat extraction and direct emissions from farm and growing vehicles. Conversely, the sector can also mitigate some of these challenges by transitioning to more environmentally friendly and sustainable farming and growing practices. This is not just a challenge for the professional sector; at home, growers and gardeners can play their part in tackling “the twin crises of our times: climate change and biodiversity loss”.⁴⁴⁶

Peat

320. Peat is a naturally occurring, organic surface layer within soils comprised of partially decomposed organic material, predominantly from plants. It is formed in bogs, also known as peatlands.⁴⁴⁷

Figure 4: UK volume of retail growing media by product, 2021



Source: Competition & Markets Authority and Office for the Internal Market, *Impact of a proposed ban of the sale of horticultural peat in England* (21 February 2023): <https://www.gov.uk/government/publications/report-impact-of-a-proposed-ban-of-the-sale-of-horticultural-peat-in-england-on-the-effective-operation-of-the-uk-internal-market/impact-of-a-proposed-ban-of-the-sale-of-horticultural-peat-in-england> [accessed 23 October 2023]

444 Written evidence from RBG Edinburgh (HSI0031)

445 Written evidence from EHG (HSI0042)

446 Written evidence from RBG Edinburgh (HSI0031)

447 Competition and Market Authority and Office for the Internal Market, *Impact of a proposed ban on the sale of horticultural peat in England* (21 February 2023): <https://www.gov.uk/government/publications/report-impact-of-a-proposed-ban-of-the-sale-of-horticultural-peat-in-england-on-the-effective-operation-of-the-uk-internal-market/impact-of-a-proposed-ban-of-the-sale-of-horticultural-peat-in-england> [accessed 13 September 2023]

321. In 2021, 1,648,057 cubic metres of peat was sold in the UK for use in horticulture (excluding mushroom production) and of this 624,131 cubic metres were extracted in the UK (38 per cent).⁴⁴⁸ The retail sector accounts for 70 per cent of peat sold in the UK while the professional sector uses peat to grow food products and plants.⁴⁴⁹
322. Peatlands are the UK's largest terrestrial carbon store, however only 13 per cent of England's peatlands are in a near-natural state.⁴⁵⁰ While healthy peatlands can help to adapt to climate change, such as by reducing flood risks, harmful extraction practices can lead to the release of carbon.⁴⁵¹ It is estimated croplands on peat emit a total of 7,600 kilotonnes of carbon dioxide equivalents per year (kt CO₂e yr⁻¹) in the UK.⁴⁵² Furthermore, we were told by the Wildlife Trusts that a lack of protections for peatlands is causing "catastrophic" impacts on wildlife.⁴⁵³ The Government has set out targets to restore around 280,000ha of peatlands in England by 2050.⁴⁵⁴
- Necessity for a ban on the use of peat*
323. The Government's initial impact assessment accompanying its consultation on ending the use of peat and peat containing products in the horticultural sector for England and Wales, updated in February 2022 (before the extension of the ban to the professional sector in 2023), found that the policy would save an estimated 0.455 million tonnes of carbon dioxide equivalent (MtCO₂e). The impact assessment will be updated prior to introduction of legislation to Parliament.⁴⁵⁵ While it is currently unclear who or what is considered 'professional', the Government says it will set out guidance as legislative proposals are developed.⁴⁵⁶
324. However, we have heard arguments that the ban will not make a significant contribution to domestic peatland restoration. Ben Malin, Director at EJ Godwin, told us that "peat extraction impacts on a tiny area of UK peatland", suggesting that extraction in England may be as little as 3km², noting imports from areas such as the Baltics and the Republic of Ireland. The Wildlife Trusts told us that imports from these areas amounted to 62

448 Written Answer [UIN 186657](#), Session 2022–23

449 Defra, 'Media reporting on peat ban for the professional horticulture sector', (24 March 2023): <https://deframedia.blog.gov.uk/2023/03/24/media-reporting-on-peat-ban-for-the-professional-horticulture-sector/> [accessed 5 September 2023]

450 Defra, *England Peat Action Plan* (May 2021): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1010786/england-peat-action-plan.pdf [accessed 5 September 2023]

451 Defra, *Nature for people, climate and wildlife* (18 May 2021): <https://www.gov.uk/government/publications/nature-for-people-climate-and-wildlife/nature-for-people-climate-and-wildlife#england-trees-action-plan> [accessed 20 December 2022]; UK Centre for Ecology and Hydrology, *Peatlands factsheet* <https://www.ceh.ac.uk/sites/default/files/Peatland%20factsheet.pdf> [accessed 13 June 2023]

452 ONS, *UK natural capital: peatlands* (22 July 2019): <https://www.ons.gov.uk/economy/environmentalaccounts/bulletins/uknaturalcapitalforpeatlands/naturalcapitalaccounts> [accessed 5 September 2023]

453 Written evidence from The Wildlife Trusts ([HSI0085](#))

454 HM Government, *Powering Up Britain: The Net Zero Growth Plan* (March 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147457/powering-up-britain-net-zero-growth-plan.pdf [accessed 5 September 2023]

455 Written Answer [UIN 182849](#), Session 2022–23; Defra, *Impact Assessment: Ending the use of peat and peat containing products in the horticultural sector for England and Wales* (14 February 2022): <https://consult.defra.gov.uk/soils-and-peatlands/endingtheretailsaleofpeatinhorticulture/supporting-documents/Consultation%20Impact%20Assessment%20%20Ending%20the%20Retail%20Sale%20of%20Peat%20in%20Horticulture%20in%20England%20and%20Wales.pdf> [accessed 8 September 2023]

456 Written Answer [UIN 189200](#), Session 2022–23

per cent of the peat used by the horticulture sector in 2021.⁴⁵⁷ Defra figures show that two thirds of peat sold in the UK is imported from Europe, which contributes to carbon emissions and habitat loss overseas.⁴⁵⁸

325. We remain concerned that peatland extraction around the world is having a damaging impact on global emissions. The Wildlife Trusts warned against the ‘offshoring’ of peatland emissions and Buglife told us that “if the sector is meaningful in its protection of the environment, it should support global efforts to halt peat extraction”, arguing for peat imports to be included in the ban.⁴⁵⁹ The Government has confirmed that the same restrictions and exemptions will apply to imports and domestic produced products containing peat.⁴⁶⁰

Timeframe for the ban

326. In 2011, the Government announced a voluntary phase out of the sale of peat and peat-containing products by 2020.⁴⁶¹ In 2018, the 25 Year Environment Plan set out plans to end peat use in horticultural products by 2030.⁴⁶² In May 2021, the England Peat Action Plan acknowledged that the “voluntary approach has not delivered”.⁴⁶³

327. Following this, in August 2022, the Government announced a ban on the sale of peat and peat-containing products in the retail (amateur) horticultural sector by 2024.⁴⁶⁴ In Defra’s initial proposals to end the retail sale of peat, plant nursery stock containing peat was not included.⁴⁶⁵ In March 2023, the Government set out expectations for a phased reduction in the use of peat for the professional sector by 2026 allowing for technical exemptions (e.g. for edible mushrooms and young plants in plugs, and conservation exemptions), with a complete ban from 2030.⁴⁶⁶

328. Some respondents to our Call for Evidence expressed frustration that the ban was seen to have been brought forward without warning. Ben Malin told

457 **Q 219** (Ben Malin); written evidence from The Wildlife Trusts ([HSI0085](#))

458 Defra, *Ending the retail sale of peat in horticulture in England and Wales* (December 2021): https://consult.defra.gov.uk/soils-and-peatlands/endingtheretailsaleofpeatinhorticulture/supporting_documents/Consultation%20Ending%20the%20retail%20sale%20of%20peat%20in%20horticulture%20in%20England%20and%20Wales.pdf [accessed 5 September 2023]

459 Written evidence from The Wildlife Trusts ([HSI0085](#)) and Buglife ([HSI0045](#))

460 Written Answer [UIN 199798](#), Session 2022–23

461 Defra, ‘Media reporting on peat ban for the professional horticulture sector’, (24 March 2023): <https://deframedia.blog.gov.uk/2023/03/24/media-reporting-on-peat-ban-for-the-professional-horticulture-sector/> [accessed 5 September 2023]

462 HM Government, *A Green Future: Our 25 Year Plan to Improve the Environment* (2018): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf [accessed 5 September 2023]

463 Defra, *England Peat Action Plan* (May 2021): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1010786/england-peat-action-plan.pdf [accessed 5 September 2023]; Defra, *Nature for people, climate and wildlife* (18 May 2021): <https://www.gov.uk/government/publications/nature-for-people-climate-and-wildlife/nature-for-people-climate-and-wildlife#england-trees-action-plan> [accessed 5 September 2023]

464 Defra, ‘Sale of horticultural peat to be banned in move to protect England’s precious peatlands’, (27 August 2022): <https://www.gov.uk/government/news/sale-of-horticultural-peat-to-be-banned-in-move-to-protect-englands-precious-peatlands> [accessed 5 September 2023]

465 Defra, *Ending the retail sale of peat in horticulture in England and Wales* (December 2021): https://consult.defra.gov.uk/soils-and-peatlands/endingtheretailsaleofpeatinhorticulture/supporting_documents/Consultation%20Ending%20the%20retail%20sale%20of%20peat%20in%20horticulture%20in%20England%20and%20Wales.pdf [accessed 5 September 2023]

466 Defra, *Media reporting on peat ban for the professional horticulture sector*, (24 March 2023): <https://deframedia.blog.gov.uk/2023/03/24/media-reporting-on-peat-ban-for-the-professional-horticulture-sector/> [accessed 5 September 2023]

us that while the 2030 date was a challenge, “to have 2026 dropped on us at this stage is in practical terms impossible”. He described the professional ban as a “cliff edge”.⁴⁶⁷

329. We have heard that the transition from peat is a significant challenge. Some evidence suggested that the ban has been implemented too soon. The HTA warned that “without the adequate time, many UK growers in our sector will face a cliff edge for a peat ban, which will likely put them out of business”.⁴⁶⁸ Boyd Douglas-Davies, former Director at British Garden Centres, told us that his business had actively stopped its investment plan due to the threat of a 2026 ban.⁴⁶⁹
330. Others have suggested the ban should be implemented sooner. Plantlife told us that progress in introducing legislation has been too slow despite repeated commitments to legislate to ban peat. It said plans to allow technical exemptions until 2030 was “unacceptably loose and prolonged”.⁴⁷⁰ Similarly, the Wildlife Trusts told us that the sector had failed to meet voluntary targets and current government plans for exemptions were too lax. It wrote that “this Government has recognised yet dithered over the issue of peat use in horticulture for over a decade, and current ambition is once more falling short of what is required”.⁴⁷¹ This view was recently shared by the Climate Change Committee, an independent, statutory advisory body, which reported in June 2023 that the proposed ban for the professional sector also should be brought forward to 2024.⁴⁷² Lord Deben, former Chair of the Climate Change Committee told us that “the argument that somehow or other the industry cannot do without peat is just not true”.⁴⁷³
331. Mark Spencer MP told us that the issue of peat was a “huge challenge”, however, he told us that he had been lobbied in both directions by stakeholders. He said he understood the need to remove peat and the Government was exploring whether “turning off the tap” would incentivise action whilst avoiding economic damage in the process. The Minister reiterated his desire to transition to peat-free “as quickly as possible”. While Defra has not outlined the timing for the ban officially, merely in a short post on its blog page, the Minister told us that Defra had engaged with the sector on the transition, however, he was unclear on the specifics of the timing of the ban, stating “we have not made a final decision at this stage”.⁴⁷⁴

Trade

332. In September 2023, the Government confirmed that the same restrictions and exemptions will apply to imports and domestic produced products containing peat.⁴⁷⁵ A February 2023 impact report by the Competition and Markets Authority (CMA) and Office for the Internal Market found that changes to trade as a result of this are likely to be modest as most

467 [Q 219](#) (Ben Malin)

468 Written evidence from HTA ([HSI0053](#))

469 [Q 94](#) (Boyd Douglas-Davies)

470 Written evidence from Plantlife ([HSI0051](#))

471 Written evidence from The Wildlife Trusts ([HSI0085](#))

472 Climate Change Committee, *2023 Progress Report to Parliament* (28 June 2023): <https://www.theccc.org.uk/wp-content/uploads/2023/06/Progress-in-reducing-UK-emissions-2023-Report-to-Parliament.pdf> [accessed 13 September 2023]

473 [Q 69](#) (Lord Deben)

474 [Q 281](#) (Mark Spencer MP)

475 Written Answer [UIN 199798](#), Session 2022–23

manufacturers producing peat-containing growing media are also able to manufacture peat-free media and thus trade will simply be replaced.⁴⁷⁶

333. However, we have heard arguments to the contrary. The HTA told us that while the domestic sector has strong ambitions to increase production, the import of plant material remains essential to produce plants. It argues that “a ban on trading in imported products containing peat will categorically alter the market and substantially reduce supply of plant goods in the UK”.⁴⁷⁷
334. Boyd Douglas-Davies told us that it was a “nonsense” to bring the ban in earlier than 2030, arguing that “there are no nurseries in Europe that are on the peat-free journey like the Brits”, which he argued would restrict plant imports and leave retailers short.⁴⁷⁸ The HTA estimates a shortfall of 100 million UK-grown plants and trees following the ban on the professional sector. The HTA’s Jennifer Pheasey told us that even though garden centres currently import around 87 per cent of the houseplants that they sell, this would not be able to make up the shortfall.⁴⁷⁹
335. The UK is not alone in transitioning to peat-free. The German government published its Peat Use Reduction Strategy in 2022 and has plans to eliminate use in the retail sector by 2026 and “as far as possible” in the professional horticulture sector by 2030.⁴⁸⁰ The Scottish Government is also consulting on ending the sale of peat in the retail and professional sector following a 2024 ban on retail sales in Wales.⁴⁸¹

Exemptions

336. Under current proposals, the Government intends to legislate for exemptions for professional growers to allow time for technical barriers to be overcome and peat-free alternatives to be developed. These exemptions will exist until 2030 for the production of young plants in plugs with a maximum volume of 150ml and the production of edible mushrooms with a peat casing layer of 2cm until 2026. Between 2027 and 2030, exemptions will be targeted on certain plant types and production methods and the Government says it will work with the sector on these exemptions based on the latest evidence. A conservation exemption also remains to ensure the safeguarding of vulnerable or endangered plant species.⁴⁸²
337. The National Trust told us that it was concerned that the 2030 end to exemptions for plug plants is “overly generous and will not expedite the peat-free propagation of ornamentals, shrubs, and trees as quickly as we need”.⁴⁸³

476 CMA and OIM, *Impact of a proposed ban of the sale of horticultural peat in England* (21 February 2023): <https://www.gov.uk/government/publications/report-impact-of-a-proposed-ban-of-the-sale-of-horticultural-peat-in-england-on-the-effective-operation-of-the-uk-internal-market/impact-of-a-proposed-ban-of-the-sale-of-horticultural-peat-in-england> [accessed 26 October 2023]

477 Written evidence from HTA ([HSI0053](#))

478 [Q 94](#) (Boyd Douglas-Davies)

479 [Q 233](#) (Jennifer Pheasey)

480 German Federal Ministry of Food and Agriculture, *Going peat-free, protecting the climate* (31 July 2022): <https://www.bmel.de/SharedDocs/Downloads/EN/Publications/peat-use-reduction-strategy.pdf> [accessed 13 September 2023]

481 Scottish Directorate of Environment and Forestry, *Ending the sale of peat: consultation* (17 February 2023): <https://www.gov.scot/publications/ending-sale-peat-scotland-consultation/pages/1/> [accessed 13 September 2023]

482 Defra, ‘Media reporting on peat-ban for the professional Horticulture sector’, (24 March 2023): <https://deframedia.blog.gov.uk/2023/03/24/media-reporting-on-peat-ban-for-the-professional-horticulture-sector/> [accessed 5 September 2023]; written answer [UIN 174455](#), Session 2022–23

483 Written evidence from National Trust ([HSI0049](#))

338. Others suggested there should be more exemptions. The West Sussex Growers' Association told us that there was a need for a larger range of exemptions to facilitate a smooth transition to peat-free.⁴⁸⁴ The All Party Parliamentary Gardening and Horticulture Group suggested that there should be an exemption for instances where existing plant stock in circulation has already been grown in peat.⁴⁸⁵ For example, some growers will already have plants in pots that will be sold after 2026.⁴⁸⁶
339. In May 2023, Defra Minister Trudy Harrison suggested that “the legislation will be framed to allow ministers to amend the dates, or modify the exemption, where exigent circumstances mean that the removal date is shown to be unachievable”.⁴⁸⁷

Alternatives to peat

340. RBG Kew told us that “it is widely accepted that almost all plant species can grow satisfactorily in peat-free compost”, adding that Kew’s horticulture teams removed peat from general use 25 years ago.⁴⁸⁸ Alternatives to peat may include mineral or organic growing media, spent mushroom compost, soil or loam, coir, wood-based, bark, and composted green waste.⁴⁸⁹ Mark Spencer MP recognised that the industry was leading the way on this and had made significant reductions in the amount of peat used in growing media.⁴⁹⁰ The All-Party Parliamentary Gardening and Horticulture Group told us that the use of English peat by industry has been reduced by half since 2011.⁴⁹¹ For example, Millbrook Garden Company told us that it has already made the transition to selling only peat free bagged compost.⁴⁹²
341. However, we have heard that there remain significant knowledge gaps in the field of peat alternatives. Ben Malin told us why peat is so essential to the sector:

“We continue to use it because we need it. It is stable, consistent and the right bulk density, so it is relatively light and not a heavy product to transport round the country, and it has the chemical characteristics that we need. It has a good cation exchange capacity, which in layman’s terms means that it holds on to fertiliser and lets it go when the plant wants it. To completely replace peat in the retail sector, we need to make sure that the product continues to grow. We cannot sell product that does not grow.”⁴⁹³

342. Trialling and testing alternatives requires extensive R&D. For example, we heard about the need to trial new media mixes for ingredients that are not well used but could have potential, such as bracken or sphagnum moss.⁴⁹⁴ Matthew Appleby, Editor at trade magazine HortWeek, criticised the Government’s record on supporting R&D in peat replacement, arguing that

484 Written evidence from WSGA ([HSI0062](#))

485 Written evidence from the All-Party Parliamentary Gardening and Horticulture Group ([HSI0041](#))

486 [Q 219](#) (Ben Malin)

487 Written Answer [UIN 185966](#), Session 2022–23

488 Written evidence from RBG Kew ([HSI0090](#))

489 See HTA, AHDB, Defra and Growing Media Association, *Growing Media Monitor Report 2022* (2023): <https://hta.org.uk/resources/get?mediaId=13878> [accessed 14 September 2023]

490 [Q 281](#) (Mark Spencer MP)

491 Written evidence from the All-Party Parliamentary Gardening and Horticulture Group ([HSI0041](#))

492 Written evidence from Tammy Woodhouse ([HSI0079](#))

493 [Q 219](#) (Ben Malin)

494 Written evidence from HTA ([HSI0053](#))

“they have let the industry sort it out for itself and then brought in the ban”.⁴⁹⁵ Greater Government support for the industry to implement R&D through innovation funds, grants and direct funding to test and trial alternatives to peat was raised by several stakeholders including Martin Hillier of Hillier Nurseries and the Environmental Horticulture Group.⁴⁹⁶

343. Particular attention must be paid to plants that do not perform well in peat-free growing media mixes. These include euphorbias (e.g. poinsettias) or ericaceous plants (e.g. rhododendron). In the edible sector, mushrooms around the world continue to be grown in peat.⁴⁹⁷
344. Even when alternatives are available, Dejex Supplies noted the limited supply of high-quality materials for the market.⁴⁹⁸ This lack of availability means that peat-free products may be more expensive than peat-containing materials. Sarah Squire, Chairman at Squire’s Garden Centres, told us that this was partly due to competition with other industries, for example wood derived products are in high demand.⁴⁹⁹
345. Dr Deborah Burn, Research and Development Officer at the National Allotment Society, told us that this expense can effectively price out allotment growers, who may be forced to turn to low quality products which may ultimately result in poorer outcomes due to variable standards amongst alternatives.⁵⁰⁰
346. Speaking on R&D, Mark Spencer MP told us that it was working with the sector to fund research into this area. He said that “we can hope for science to find the necessary solutions to our challenges, but we can only progress at the speed at which those scientific breakthroughs come forward”.⁵⁰¹

Standards

347. Even if possible to secure alternatives to peat that perform as well, we have heard that these alternatives can be less consistent, and lower quality. At present, “technically, any material can be bagged and referred to as ‘peat free compost’”.⁵⁰²
348. Poor standards in peat-free growing media may have negative consequences. Peter Burks, CEO at the Garden Centre Association, warned that amateur gardeners may “lose confidence and give up” if standards are not addressed to ensure a consistent, reliable and easy to use product.⁵⁰³ In the long-term, this may lead to higher wastage of plants, substrates, fertilisers and packaging.⁵⁰⁴
349. At present, the most notable existing standard for peat-free growing media is the Responsible Sourcing Scheme, which was established by the HTA, Defra and industry and assesses each raw material against environmental criteria before being given a rating of A to E. However, the scheme is voluntary and there remain challenges communicating the value of the scheme to

495 [Q 77](#) (Matthew Appleby)

496 Written evidence from Hiller Nurseries ([HSI0038](#)) and EHG ([HSI0042](#))

497 [Q 90](#) (Mike Norris and Jack Ward)

498 Written evidence from Dejex Supplies Ltd ([HSI0017](#))

499 Written evidence from Sarah Squire ([HSI0020](#))

500 [Q 175](#) (Dr Deborah Burn)

501 [Q 281](#) (Mark Spencer MP)

502 Written evidence from Evergreen Garden Care ([HSI0066](#))

503 Written evidence from Peter Burks, Garden Centre Association ([HSI0077](#))

504 Written evidence from Dejex Supplies ([HSI0017](#))

consumers. The scheme does not include information on the quality of the product, something that Evergreen Garden Care has called for.⁵⁰⁵

350. Greater consumer education may be required to help consumers overcome barriers transitioning to peat-free growing media. Peat alternatives typically behave and look different to peat, which can prove challenging for gardeners and growers and may result in poor outcomes. We heard that “this leads some consumers, particularly those who are experienced and have been gardening for many years with peat, to be sceptical of peat free products and reluctant to make the change”.⁵⁰⁶
351. The Government appears to recognise this need and is exploring the development of a minimum standard to support the industry in making informed buying choices.⁵⁰⁷

Unintended consequences

352. We heard concerns that in the transition away from peat, there is a risk of unintended consequences. George Hillier of Hillier Nurseries warned that “we cannot jump out of the fire and into the frying pan on this and start using something that actually has a worse net result on carbon emissions”.⁵⁰⁸
353. Some alternatives to peat may require increased use of fertilisers. Ben Malin told us that wood-based fertilisers are prone to greater microbial action, which leads to increased fertiliser consumption and the ‘locking up’ of nitrogen. This is compensated for by adding more fertiliser. Sometimes, this comes in the form of microplastic balls that release fertiliser over time.⁵⁰⁹
354. Alternatives to peat can have less water holding capacity, which may lead to increased irrigation needs for crops, causing greater strain on water supply.⁵¹⁰ New Leaf Plants suggested that costs associated with more frequent watering would make UK produced plants less competitive than their European counterparts, while Ben Malin highlighted the need to invest in new technologies such as both capillary-action sand beds and spray irrigation watering systems in order to effectively irrigate crops, which he said was unrealistic by 2026.⁵¹¹
355. Similarly, we heard that greater investment into infrastructure will be needed to support the transition to peat-free. Ben Malin warned that alternatives cannot be stockpiled in the same way as peat as it is more likely to catch fire.⁵¹² Ben Raskin, Head of Horticulture and Agroforestry at the Soil Association, told us that current infrastructure was built around peat, and will take time to be adapted to peat-free.⁵¹³
356. We also heard that peat alternatives may result in increased emissions from travel. Dejex Supplies told us that peat-free substrates may result in reduced average volume per lorry load due to the need to use dense composted materials such as barks or green waste to achieve water holding and buffering

505 Written evidence from Evergreen Garden Care ([HSI0066](#))

506 *Ibid.*

507 Written Answer [UIN 147142](#), Session 2022–23

508 [Q 97](#) (George Hillier)

509 [QQ 220–222](#) (Ben Malin)

510 Written evidence from Dejex Supplies Ltd ([HSI0017](#))

511 Written evidence from New Leaf Plants Ltd ([HSI0022](#)); [Q 222](#) (Ben Malin)

512 [Q 221](#) (Ben Malin)

513 [Q 219](#) (Ben Raskin)

requirements. The company estimates that this may result in over 7,000 more lorry deliveries in the UK.⁵¹⁴ Ben Malin told us that Coir, a coconut fibre imported typically from South Asia to markets all over the world, has a long supply chain to reach the UK. He suggested that “it would be foolhardy to build an industry in the UK on a product that is entirely imported and to which we are very vulnerable to”.⁵¹⁵

357. Not only does Coir need to be transported from overseas, but reliance on this material may also lead to increased biodiversity loss in sub-tropical regions that are species risk. Dejex Supplies told us that coir from coconut palm plantations has a significantly higher biodiversity loss per hectare than palm oil.⁵¹⁶ Ben Malin explained the impact on his business:

“We used to take peat from next to our factory, combine it with some other products that all came from within five miles, manufacture the compost and distribute it. Now I have coir from India, wood fibre from round the country, and woodchip. I bring it in, reconstitute the coir with machinery powered by diesel. I chip wood with diesel and process that stuff. Then I put it in a bag and put in three times as much oil-based fertiliser. I am not at all sure that we have gone the right way with this, but successive Governments decided that peat reduction was the way to go.”⁵¹⁷

358. Peat-free alternatives may present greater biosecurity and plant health risks. For example, we heard that green waste has a higher probability of contamination with herbicides and heavy metals, anaerobic digestate waste contains macro and microplastic and unstable nutrient levels, while timber products decompose in substrate attracting bacteria and fungi. Dejex Supplies wrote that “as the industry is forced to use less consistent alternatives this risk increases, inevitably suppliers will need to increase gross margins to make the risk commercially acceptable”.⁵¹⁸
359. The HTA recently placed the approximate saving as a proportion of the UK’s projected territorial CO₂e emissions from 2027 to 2030 at just 0.02 per cent in the scenario that the peat ban is brought forward to 2026. At the same time, it projects a shortfall in output of UK-grown plants and trees of up to 100 million in 2027 following the ban, resulting in a reduction in CO₂ absorption. The HTA therefore argue that the benefit that might be delivered via a 2026 ban would be lower than the environmental harm that would result from the likely reduced output of plants and trees and the ecosystem services they provide.⁵¹⁹
360. In addition to unintended environmental consequences, data produced by Oxford Economics for the HTA recently indicated that a 2026 ban could result in a £541 million reduction in Gross Value Added (GVA), and a £124 million decline in tax revenues reflecting the potential changes to costs and revenues for UK plant growers and retailers. For example, the HTA

514 Written evidence from Dejex Supplies Ltd ([HSI0017](#))

515 [Q 219](#) (Ben Malin)

516 Written evidence from Dejex Supplies Ltd ([HSI0017](#))

517 [Q 226](#) (Ben Malin)

518 Written evidence from Dejex Supplies Ltd ([HSI0017](#))

519 Horticultural Trades Association, ‘Outline assessment of the environmental impact of moving peat removal forward from 2030 to 2026’, (24 August 2023): <https://hta.org.uk/news-events-current-issues/news/new-evidence-shows-defra-proposals-for-an-early-peat-ban-will-have-negative-environmental-and-economic-impacts> [accessed 23 October 2023]

estimates that in the event of a 2026 ban, plant sales could drop by over 46 per cent, with subsequent drops in plant-linked goods such as growing media and containers. The data also suggests the ban could result in the loss of 12,000 jobs.⁵²⁰

361. **Given the damaging environmental impact of peat extraction, whether it occurs at home or overseas, it is right that the Government is accelerating the pace of movement towards a peat-free future for the horticulture sector. Businesses have had over a decade to prepare for this transition and, despite the best efforts of many, they have not moved far enough fast enough. However, the Government has not provided adequate support to help them make this transition, which may leave some businesses at a cliff edge in 2026.**
362. *The Government must urgently bring forward legislation and detailed guidance to provide clarity and certainty for the sector on how the peat ban will work in practice, including enforcement measures. It should not implement a total ban until it undertakes a full, revised impact assessment. It should consider appointing an existing sector body or group of representative bodies to spearhead the transition.*
363. **There is a significant risk that the UK's ban on peat could jeopardise imports and lead to a shortfall of plants for the UK market. Should Defra decide not to apply the ban to imports, it could result in a flooding of the market with overseas imports and those from the devolved administrations that undercut growers in England and put them out of business. There has been little clarity on this topic to date.**
364. *The Government must urgently and clearly outline whether the peat ban will apply to all imported products and set out a plan to establish how the domestic market will be safeguarded against peat-grown imports in collaboration with the Office for the Internal Market. It must work better with its international trading partners, particularly the Netherlands and the devolved administrations, to design a collaborative approach to peat-free.*
365. **It is possible that the peat ban could have serious unintended consequences. There is a significant risk that by reducing the emissions from peat extraction at home, we are supplanting the loss with emissions resulting from importing alternatives such as coir, effectively exporting our carbon footprint. Less absorptive peat alternatives may require greater water and fertiliser resources and could increase the presence of microplastics in the soil.**
366. *The Government must set out in its forthcoming updated impact assessment how the proposed ban could unintentionally cause environmental damage stemming from use of alternative growing media and how it intends to prevent or mitigate such damage.*
367. **Some plants simply will not grow well in peat-free growing media, particularly given the variance in quality of peat-free media.**

520 Oxford Economics, *Economic assessment of a 2026 ban on professional use of peat* (24 August 2023): <https://hta.org.uk/news-events-current-issues/news/new-evidence-shows-defra-proposals-for-an-early-peat-ban-will-have-negative-environmental-and-economic-impacts> [accessed 25 October 2023]

368. *The Government must work closely with the sector to establish a realistic list of exemptions to allow more time for R&D innovation into alternative growing media. It must work with the industry to set a minimum standard for quality.*
369. **The Government has not done enough to foster a supportive and innovative environment to enable R&D projects to explore and establish viable alternatives to peat. Businesses cannot make the transition to peat-free without financial support for R&D and further Lifecycle Carbon Analysis of alternatives, particularly those imported from overseas.**
370. *The Government must continue to provide funding to support research into viable alternatives to peat in collaboration with the industry and academics. It should establish a communications campaign tailored to the professional sector to increase awareness of the viability of alternatives to peat and communicate the findings from its research projects in collaboration with the RHS.*

Pesticides, fertilisers and agri-chemicals

371. Agri-chemicals are used in horticulture primarily as pesticides, herbicides (weedkillers) and fertilisers. Synthetic agri-chemicals can present a range of risks to the environment. Ben Raskin told us that “every time you add a pesticide, fungicide or fertiliser to the soil, it has an impact. We are only just beginning to understand some of those impacts”.⁵²¹
372. Defra told us that it is encouraging reduced reliance on pesticides and plant protection products to improve biodiversity and pollinator numbers, protect aquatic ecosystems and reduce the risk of pest resistance.⁵²²
373. Reducing the use of agri-chemicals is challenging in the context of increasing threats from climate change. For example, the UN Food and Agriculture Organisation recognises that climate change has expanded some pests’ host range and geographical distribution. Changes in the weather can impact the establishment of new pests, which can subsequently damage crops and pose risks to food security. Invasive pests are also a key driver of biodiversity loss.⁵²³

Harmful impacts

374. The use of agri-chemicals can result in a series of risks for the environment if not managed effectively or sustainably. Risks may include the following:
- Water pollution and the eutrophication (an excess of nutrients) of water courses due to chemicals leaching into waterways.⁵²⁴
 - Greenhouse gas emissions can result from the energy-intensive production of mineral fertilisers and can be released from the soil as nitrous oxide and ammonia.⁵²⁵

521 [Q 223](#) (Ben Raskin)

522 Written evidence from Defra ([HSI0087](#))

523 United Nations Food and Agriculture Organization, *Scientific review of the impact of climate change on plant pests: a global challenge to prevent and mitigate plant-pest risks in agriculture, forestry and ecosystems* (2021): <https://www.fao.org/3/cb4769en/online/cb4769en.html> [accessed 23 October 2023]

524 [Q 70](#) (Prof Tim Benton)

525 Written evidence from the School of Water, Energy and Environment, Cranfield University ([HSI0018](#)); UN FAO and UN Environment Programme, *Global Assessment of Soil Pollution: Summary for policymakers* (2021): <https://www.fao.org/3/cb4827en/cb4827en.pdf> [accessed 23 October 2023]; [Q 70](#) (Prof Tim Benton)

- Damage to soil health can result from the use of phosphorous-based fertilisers that may contain trace elements of metals like zinc, lead, copper, and palladium, which can also acidify soils.⁵²⁶
 - Biodiversity may be reduced due to damage to non-target species such as pollinators and soil-dwelling invertebrates.⁵²⁷ Glyphosate-based pesticides can cause mortality in bumblebees, while neonicotinoid pesticides can result in declines in wild bee and butterfly populations.⁵²⁸
375. In addition to environmental harms, we have also heard that the effects of pesticide use may be more far-reaching. Anabel Kindersley, Co-owner and Co-chair at Neal's Yard Remedies, warned of a significant impact on food security in addition to knock-on effects on related sectors such as the beauty industry, which rely on the pollination of flowering plants. She highlighted the dangerous impacts of pesticides such as neonicotinoids (which the Government said it would clamp down on in its 25 Year Environment Strategy) and warned of inaction, arguing the "cost not only to British businesses but also to 'Brand Britain' could be considerable".⁵²⁹
376. Finally, we also heard that exposure to pesticides could result in risks to human health.⁵³⁰ The Soil Association told us that pesticides have been linked negatively to children's cognitive development.⁵³¹
377. We were told that the full effects of such chemicals on the environment are as yet unknown. Buglife told us that there is limited evidence for the impact of pesticides on risks to pollinators due to a lack of scientific research on all ingredients used in pesticide products.⁵³² The 25 Year Environment Plan set out ambitions to reduce the environmental impact of pesticides by ensuring regulation of pesticides is in step with scientific knowledge.⁵³³

Environmentally-friendly alternatives

378. Biopesticides are natural, biologically occurring compounds that can be used to control pests.⁵³⁴ Similarly, biofertilisers can enhance nutrient availability.⁵³⁵ Grower David Knight told us that "huge strides are being made with such innovations as bio-insecticides and bio-fungicides to control pests and disease".⁵³⁶

526 UN FAO and UNEP, *Global Assessment of Soil Pollution: Summary for policymakers* (2021): <https://www.fao.org/3/cb4827en/cb4827en.pdf> [accessed 23 October 2023]

527 HM Government and Defra, *Environmental Improvement Plan 2023* (31 January 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1133967/environmental-improvement-plan-2023.pdf [accessed 6 September 2023]

528 Written evidence from Buglife ([HSI0045](#))

529 Written evidence from Anabel Kindersley, Neal's Yard Remedies ([HSI0081](#)); Defra, *25 Year Environment Plan* (11 January 2018): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf [accessed 6 September 2023]

530 Written evidence from Dr Hannah Pitt and Dr Lydia Medland ([HSI0039](#))

531 Written evidence from the Soil Association ([HSI0040](#))

532 Written evidence from Buglife ([HSI0045](#))

533 Defra, *25 Year Environment Plan* (11 January 2018): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf [accessed 6 September 2023]

534 Jitendra Kumar, *et al*, 'An Overview of Some Biopesticides and Their Importance in Plant Protection for Commercial Acceptance', *Plants (Basel)* (June 2021): <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8230470/> [accessed 26 October 2023]

535 Satish Kumar *et al*, 'Biofertilizers: An eco-friendly technology for nutrient recycling and environmental sustainability', *Current Research in Microbial Sciences* (December 2021): <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8724949/> [accessed 26 October 2023]

536 Written evidence from David Knight ([HSI0005](#))

379. Organi-mineral fertilisers (OMFs) may present another alternative. OMFs take organic waste products such as food waste and combine them with mineral fertilisers to produce a more desirable nutrient content. This is then dried and pelleted to make it easily storable and transportable. This helps to promote a circular economy and reintroduces organic matter into agricultural soil whilst acting as a sustainable source of nutrients.⁵³⁷
380. Controlled Environment Horticulture is high yielding and water and land efficient, and it uses fewer pesticides and fertilisers.⁵³⁸ For example, vertical farms can avoid the risk of pests entirely so the elimination of pesticides, fungicides, herbicides or biocides in vertical farming means that crops do not have to be washed and have a longer shelf life.⁵³⁹

Figure 5: A vertical farm



Source: Fresh Vegetables are growing in indoor farm/vertical farm. By Yein Jeon/Wirestock [stock.adobe.com](https://www.adobe.com/stock)

381. New farming methods incorporating new technologies are also presenting alternatives. In 2021/22, 25 per cent of farms in England were using precision farming techniques.⁵⁴⁰ Defra's Tim Mordan told us that this has enabled "zapping weeds more precisely than the indiscriminate application of crop protection products".⁵⁴¹ Precision farming focuses on precise observation, measurement, and responses to variability in crops.⁵⁴² For example, Dr Mark Else Head of

537 Written evidence from the School of Water, Energy and Environment, Cranfield University ([HSI0018](#))

538 Written evidence from Defra ([HSI0087](#))

539 Written evidence from Intelligent Growth Solutions Ltd ([HSI0059](#))

540 Defra, *Fertiliser usage on farm, England 2021/22 - Statistics Notice* (updated 30 March 2023): <https://www.gov.uk/government/statistics/fertiliser-usage-on-farm-england/fertiliser-usage-on-farm-england-202122-statistics-notice> [accessed 8 September 2023]

541 [Q 10](#) (Tim Mordan)

542 European Commission, 'Precision farming': <https://ec.europa.eu/eip/agriculture/en/digitising-agriculture/developing-digital-technologies/precision-farming-0> [accessed 4 January 2023]

Crop Science and Productions Systems at the National Institute for Agricultural Botany (NIAB), told us about the use of prescriptive models to target fertiliser demand at different stages of crop development.⁵⁴³ The BBSRC's Dr Beniston highlighted the precise targeting of weeds using lasers.⁵⁴⁴ The NFUS referred to automated broccoli planters that provide a targeted volume of nutrients and water, which can reduce the total volume of fertiliser applied.⁵⁴⁵

382. Gene editing is now a possibility in the UK due to the passage of legislation enabling precision breeding and gene editing in March 2023 (see Box 3). We have heard that plant breeding has a vital role to play in producing novel plant varieties that can resist the impacts of climate change and require less use of products such as pesticides and fertilisers.⁵⁴⁶

Box 3: The Genetic Technologies (Precision Breeding) Act 2023

Precision breeding uses a science known as gene editing to adapt organisms' genetic code to create beneficial traits that would take decades to achieve through traditional breeding. Gene editing is different from genetic modification because it does not result in the introduction of DNA from other species and creates new varieties similar to those that could be produced more slowly by natural processes.⁵⁴⁷

This process enables crops to be produced that are more nutritious, productive and beneficial to the environment. It can also support the growth of crops that are resistant to pests and disease, and the Government says it will reduce the use of fertilisers and pesticides.⁵⁴⁸

The Government has provided up to £30 million of investment to drive the use of precision breeding technology on top of a previous £8 million invested already. It has also pledged to create a new working group to bring together plant breeders, food manufacturers and retailers to support getting produce from farms to supermarket shelves, and it will establish a regulatory process for products made using the technology to stimulate greater R&D in precision breeding. It says this action will “unlock the benefits of innovative technologies to strengthen our food security, cementing the UK's leadership in this field”.⁵⁴⁹

Source: *Genetic Technology (Precision Breeding) Act 2023*

383. We heard about challenges to the promotion of alternative breeding methods, in particular relating to knowledge gaps in R&D. The Soil Association called for better research and innovation funding to support a transition to more sustainable farming practices, including using fewer chemicals.⁵⁵⁰ Evergreen

543 [Q 145](#) (Dr Mark Else)

544 [Q 159](#) (Dr Lee Beniston)

545 Written evidence from NFU Scotland ([HSI0013](#))

546 Written evidence from CIOPORA, Plant for Europe Ltd ([HSI0009](#))

547 Defra and Food Standards Agency, Press Release: *Plans to unlock power of gene editing unveiled* on 29 September 2021: <https://www.gov.uk/government/news/plans-to-unlock-power-of-gene-editing-unveiled> [accessed 26 October 2023]

548 Defra, Press Release: *Genetic Technology Act key tool for UK food security* on 23 March 2023: <https://www.gov.uk/government/news/genetic-technology-act-key-tool-for-uk-food-security> [accessed 26 October 2023]; written evidence from Defra ([HSI0087](#))

549 Defra, Press Release: *Genetic Technology Act key tool for UK food security* on 23 March 2023: <https://www.gov.uk/government/news/genetic-technology-act-key-tool-for-uk-food-security>; PM's Office and Defra, Press Release: *Government backs British farmers with new package of support* on 15 May 2023: <https://www.gov.uk/government/news/government-backs-british-farmers-with-new-package-of-support> [accessed 26 October 2023]

550 Written evidence from the Soil Association ([HSI0040](#))

Garden Care criticised the lack of access to funding to boost development of sustainable products and make these available on the market.⁵⁵¹ Defra told us that it supports innovations through the Farming Innovation Programme, which provides funding for R&D into fertiliser use and reductions in pesticide application.⁵⁵²

384. We have also heard that there may be reluctance amongst growers to take up new costly and inherently risky innovations as growers “would rather apply pesticides than risk losing a crop, or producing a crop that a supermarket might refuse”.⁵⁵³

Integrated pest management

385. Integrated Pest Management (IPM) is a key strategy for moving away from artificial pesticides and was set as a priority in the Government’s 25 Year Environment Plan.⁵⁵⁴ This approach uses a variety of crop protection methods, including promoting natural processes such as creating habitats for natural predators of plant pests, or using crop rotations to break pest, weed and disease cycles. IPM aims to optimise and minimise the use of chemical pesticides through targeted and precise application.⁵⁵⁵
386. Under the 2023 Sustainable Farming Incentive branch of ELMS, horticultural land managers can claim funding under four IPM actions. For example, they can claim £989 per year for assessment of IPM and production of a plan to implement it, £673 per hectare for implementing flower-rich grass margins, blocks or in-field stopes, £55 per hectare for introducing companion crops, and £45 per hectare for not using insecticide on permanent crops.⁵⁵⁶
387. Grower Ali Capper told us that the sector is embracing IPM. She gave the example of using mating disrupters, small discs to sterilise males to prevent population growth, to control moths that damage the fruit on her farm and reduce pesticide use.⁵⁵⁷
388. However, Anabel Kindersley, Co-Chair of Neal’s Yard Remedies, pointed to the European Commission’s database of around 1,300 examples of practices, techniques and technologies available as alternatives to pesticide use. She argued that in contrast to the Commission’s approach, UK research into IPM is nascent.⁵⁵⁸
389. Sustainable Food Places told us that “more investment is needed in farmer-led research and development in agroecological practises to help increase and share knowledge”.⁵⁵⁹

551 Written evidence from Evergreen Garden Care ([HSI0066](#))

552 Written evidence from Defra ([HSI0087](#))

553 Written evidence from Prof Rebecca Cassidy ([HSI0025](#))

554 Defra, *25 Year Environment Plan* (11 January 2018): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf [accessed 6 September 2023]

555 HM Government and Defra, *Environmental Improvement Plan 2023* (31 January 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1133967/environmental-improvement-plan-2023.pdf [accessed 6 September 2023]

556 Defra and Rural Payments Agency, *Sustainable Farming Incentive: Handbook for the SFI 2023 offer* (21 June 2023): <https://www.gov.uk/government/publications/sfi-handbook-for-the-sfi-2023-offer> [accessed 4 September 2023]

557 [Q 91](#) (Dr Ali Capper)

558 Written evidence from Neal’s Yard Remedies ([HSI0081](#))

559 Written evidence from Sustainable Food Places ([HSI0047](#))

390. The Government has recently joined the US-led Global Fertiliser Challenge, investing £3 million to develop, test and scale up new and alternative fertilisers to enhance soil health, productivity, and sustainability.⁵⁶⁰ It has also supported IPM projects to find non-chemical alternatives to reduce the presence of pests.⁵⁶¹

Consumer approaches

391. We have heard that amateur gardeners are not being provided with enough support to move away from reliance on pesticides, although some garden centres have already stopped selling synthetic pesticides.⁵⁶² Dr Thorogood of Oxford Botanic Gardens and Arboretum told us:

“In any garden centre you go to at the moment, you will be overwhelmed by all the pesticides that you can use, and there is strong scientific evidence to show that that correlates with a significant decline in birds, for obvious reasons. They are promoted in such a way that a consumer might think, “Oh, this is perfectly safe for me to use. The messaging looks friendly. I see it next to this plant that I am about to buy, so it is logical for me to buy all this together”. We can do a lot better in informing consumers to make good decisions as well.”⁵⁶³

392. We heard that most growers, whether professional or amateur, want to reduce their pesticide and fertiliser use.⁵⁶⁴ Dr Jill Edmondson, Senior Lecturer at the University of Sheffield School of Biosciences, told us that allotment growers are embracing these practices by regularly using management practices including renewal and composting rather than an overreliance on synthetic fertilisers. She suggested a framework for sustainable soil management in urban systems could prove a useful mechanism to expand sustainable use of urban horticultural land.⁵⁶⁵
393. It was argued that more defined targets or even a ban would support the public to act on the “changing mood” towards agri-chemicals. The Soil Association’s Ben Raskin suggested that that “having that kind of push from behind would really help focus the mind”.⁵⁶⁶
394. The EU’s 2020 Farm to Fork Strategy announced a target of 50 per cent reduction in the use and risk of chemical pesticides and a 50 per cent reduction in the use of more hazardous pesticides by 2030, with progress reports published each year.⁵⁶⁷ Some member states have gone further. OxCAN wrote to us about France’s recent ban on the use of lawn and

560 Defra and Foreign, Commonwealth & Development Office, Press Release: *UK leads the way on agricultural innovation at Washington D.C. Climate Summit* on 9 May 2023: <https://www.gov.uk/government/news/uk-leads-the-way-on-agricultural-innovation-at-washington-dc-climate-summit>

561 HM Government and Defra: *Environmental Improvement Plan 2023* (31 January 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1133967/environmental-improvement-plan-2023.pdf [accessed 6 September 2023]

562 Written evidence from Tammy Woodhouse ([HSI0079](#))

563 [Q 72](#) (Dr Chris Thorogood)

564 [Q 223](#) (Ben Raskin)

565 [Q 175](#) (Dr Jill Edmondson)

566 [Q 223](#) (Ben Raskin)

567 European Commission, ‘Farm to Fork targets: Progress’: https://food.ec.europa.eu/plants/pesticides/sustainable-use-pesticides/farm-fork-targets-progress_en [accessed 28 July 2023]

landscape pesticides in both public and private areas frequently used by the public under the extended loi Labbé, and suggested the UK follow suit.⁵⁶⁸

The Plant Protection Products regime

395. While we have heard support for reducing pesticide use, we also recognise that the reduction in pesticide availability could have a serious impact on horticulture. Landseer told us:

“The public perception is that all pesticides are bad which is far from the case under the highly regulated procedures of the Health and Safety Executive. Crop protection products are like medicines and the future is akin to supplying the National Health Service exclusively on products sold by Holland and Barrett.”⁵⁶⁹

396. Elsom's Seeds told us that “targeted pesticide application is a valued part of production and with continued loss of these options there is a higher risk of crop failure at an early stage and more field-based applications will need to be used”.⁵⁷⁰ It warned that there was greater availability of such products in the EU due to changes to the Plant Protection Products (PPPs) regime.⁵⁷¹ The Agricultural Industries Federation told us that post-EU Exit, the costs of GB approvals of PPPs may prove prohibitive. Uncertainty around the operation of the regime is “unhelpful to all businesses along the food supply chain”. Furthermore, the group expressed concern that work on non-PPP alternatives to pest, weed and disease control was undertaken by AHDB Horticulture, which is now defunct.⁵⁷²
397. Dr Lacey of HL Hutchinson told us that “the cost, complication and confusion about direction of travel of a GB-only plant protection product regulation regime is making manufacturers reluctant to invest in the sector”. This may restrict the development of the biopesticide market.⁵⁷³
398. UK farmers and growers face the prospect of losing crop protection tools because regulatory fees will mean that it is not commercially viable for manufacturers to support the GB regulatory process. British Apples and Pears Ltd told us that this will make growing impossible and competition with imported fresh produce will rise.⁵⁷⁴

Additional government initiatives

399. The Government has promised a range of strategies to tackle the use of agricultural chemicals and promote soil health. For example, it promised to publish an updated National Action Plan for the Sustainable Use of Pesticides in the first half of 2023, first promised in the 25 Year Environment Plan.⁵⁷⁵ This remains unpublished. It also promised a Chemicals Strategy in 2023 to establish the regulatory approach and priorities for the sustainable use of

568 Written evidence from OxCAN ([HSI0056](#)). See also ‘Interdiction des pesticides: de nouveaux lieux concernés depuis le 1er Juillet 2022’ (5 July 2022): <https://www.service-public.fr/particuliers/actualites/A15788?xtor=EPR-100#> [accessed 23 October 2023].

569 Written evidence from Landseer Ltd ([HSI0011](#))

570 Written evidence from Elsom's Seeds Ltd ([HSI0010](#))

571 *Ibid.*

572 Written evidence from the Agricultural Industries Confederation ([HSI0044](#))

573 Written evidence from Dr Tim Lacey ([HSI0055](#))

574 Written evidence from British Apples and Pears Ltd ([HSI0063](#))

575 Written answer [UIN 114594](#), Session 2022–23; Defra, *25 Year Environment Plan* (11 January 2018): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf [accessed 6 September 2023]

chemicals through UK REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals).⁵⁷⁶

400. In recent years, a standalone Soil Health Action Plan for England was due to be published, however this was shelved and commitments were instead announced in the January 2023 Environmental Improvement Plan.⁵⁷⁷ In the plan, the Government said it would publish a baseline map of soil health for England by 2028 and bring at least 40 per cent of England’s agricultural soil into sustainable management by 2028, and 60 per cent by 2030.⁵⁷⁸ It promised to establish comprehensive baseline data, to support farmers and land managers to establish their own soil health baseline and to share guidance and best practice to improve soil health.⁵⁷⁹
401. The Environmental Improvement Plan sets out legally binding targets to reduce nitrogen, phosphorus and sediment pollution from agriculture into the water environment by at least 40 per cent by 2038, compared to a 2018 baseline, with an interim target of 10 per cent by 31 January 2028.⁵⁸⁰
402. In July 2023, the Government announced that it would lift the £250,000 cap on civil penalties for environmental offences including polluting waterways and broaden their scope to a wider range of offences to ensure a ‘polluter pays’ approach.⁵⁸¹
403. **Agri-chemicals can have a damaging impact on soil health and may present risks to human health and water quality. The sector is taking steps to move towards bio-pesticides and fertilisers; however, it requires more support to make this transition and a target to work towards.**
404. *The Government should set a target for the reduction in use of those agri-chemicals that are demonstrably harmful, including certain pesticides and fertilisers in the horticulture sector. It should consult with the sector on a realistic timeframe for implementation and consider mandatory bans if voluntary action is not forthcoming.*

Water

405. Water is fundamental both to the edible and ornamental horticultural sector. It is used in growing (rainfall, irrigation), processing (washing produce, pack-house wash-down, sanitation) and distribution (wash-down).⁵⁸²

576 HM Government and Defra, *Environmental Improvement Plan 2023* (31 January 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1133967/environmental-improvement-plan-2023.pdf [accessed 6 September 2023]

577 HL Deb, 8 September 2021, [cols 867–868](#); written answer [HL 4404](#), Session 2022–2023

578 HM Government and Defra, *Environmental Improvement Plan 2023* (31 January 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1133967/environmental-improvement-plan-2023.pdf [accessed 6 September 2023]

579 *Ibid.*

580 *Ibid.*

581 Defra, Press Release: *Polluters must pay’ says Environment Secretary, as unlimited penalties unveiled* on 12 July 2023: <https://www.gov.uk/government/news/polluters-must-pay-says-environment-secretary-as-unlimited-penalties-unveiled> [accessed 26 October 2023]

582 Taylor & Francis Online, ‘The exposure of a fresh fruit and vegetable supply chain to global water-related risks’, *Water International*, vol. 43(6), (2018): <https://www.tandfonline.com/doi/epdf/10.1080/02508060.2018.1515569> [accessed 20 September 2023]; Science Direct, ‘Life Cycle Analysis’, *Journal of Environmental Management*, vol. 91, (2010): <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/life-cycle-analysis> [accessed 26 October 2023]

406. Water can be supplied on-site in a number of ways depending on cost, accessibility, and availability of space for collection, treatment and storage. It can be sourced from public water mains via a wholesaler, through private supplies through licenced abstraction from boreholes, drains or rivers, and/or through rainwater harvesting or the recycling of used water.⁵⁸³
407. Several government and regulatory bodies are involved in the water management landscape as shown in Table 4.

Table 4: Key bodies involved in water management.

Organisation	Responsibilities
Defra	Sets the overall water regulatory and policy framework in England.
DLUHC	Responsible for local government, planning and building safety.
DSIT	Responsible for innovation, which may include water storage technologies, wastewater reuse and rainwater harvesting.
HM Treasury	Manages funding for bodies e.g. Ofwat.
Environment Agency	Regulates the water, sewerage and agriculture sectors.
Ofwat (Water Services Regulation Authority)	The economic regulator of the water and sewerage sectors. Responsible for protecting the interests of consumers and ensuring water companies can properly carry out their functions.
Natural England	Advises the Government on the Natural Environment.
Office for Environmental Protection	Holds water companies to account, for example regarding water pollution.

Source: Official websites of organisations listed

408. Defra have set a new legally binding target under the Environment Act 2021 to reduce the use of public water supply in England per head of population by 20 per cent by 2038. To achieve this, it has pledged to reduce non-household (including business) water use by 9 per cent by 31 March 2038.⁵⁸⁴ The Environmental Improvement Plan sets out the aim to increase the percentage of water storage used by the agriculture and horticulture sectors by 66 per cent by 2050.⁵⁸⁵
409. The Environment Agency is currently in the process of upgrading its water resources framework for 2025. The framework explores England's long term water needs and sets out actions to ensure greater resilience. Richard

583 AHDB, 'Establishing a resilient water supply', (updated 2019): <https://horticulture.ahdb.org.uk/knowledge-library/establishing-a-resilient-water-supply> [accessed 8 September 2023]; AHDB, 'Sources of irrigation water for horticulture': <https://horticulture.ahdb.org.uk/knowledge-library/sources-of-irrigation-water-for-horticulture> [accessed 8 September 2023]

584 Defra, *Plan for Water* (4 April 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1148704/Plan_for_Water_-_our_integrated_plan_for_delivering_clean_and_plentiful_water_PDF_version.pdf [accessed 8 September 2023]

585 HM Government and Defra, *Environmental Improvement Plan 2023* (31 January 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1133967/environmental-improvement-plan-2023.pdf [accessed 6 September 2023]

Thompson, Deputy Director of Water Management and Investment at the Environment Agency, told us that a key priority was to build in further impacts of climate change and understand the needs and risks for all sectors.⁵⁸⁶ Samuel Larsen, Director of Programmes at Water UK, welcomed this, arguing that “it will be the first time that horticulture has been embedded into that process quite as much as it will be”.⁵⁸⁷

The impact of climate change

410. The horticultural sector is increasingly threatened by changes in water supply due to climate change, through changes in the frequency and/or severity of rainfall, restrictions on abstraction, the failure of private supplies, excess soil water, and flood risks.⁵⁸⁸ Richard Thompson from the Environment Agency, told us that he expected a 10 to 15 per cent reduction in water availability by 2050 due to climate change. Out of a potential water deficit of 4 billion litres per day in 2050, around 500,000 litres will impact food and farming.⁵⁸⁹
411. Agriculture as a whole accounts for around 1 per cent of England’s water use.⁵⁹⁰ Richard Thompson explained that the change in the profile of water availability throughout the year will become increasingly noticeable, with more intense droughts in the summer, coupled with higher temperatures and more intense storms.⁵⁹¹ Horticultural crops may face significant risk from drought both due to hydrological deficits (a deficit in surface and groundwater resources) and due to related supply and demand deficits in water supply. In this instance, it is more likely that crops will become less productive or fail and soil will become increasingly degraded.⁵⁹²
412. Horticultural growers can take a range of steps to mitigate the potential impact of future shortages, and are being encouraged to do so following droughts in 2022 and 2023. The Environment Agency suggests safeguarding supplies through maximising opportunities to fill reservoirs and planning cropping to meet reduced availability.⁵⁹³ Richard Thompson told us that “It is largely a case of better techniques for water efficiency, more storage, and better connectivity and optimisation of the whole network, so that different users can have water when they need it”.⁵⁹⁴
413. In addition to drought, increased flooding caused by climate change is a serious concern. Heavy precipitation can lead to soil erosion, loss of nutrients

586 [Q 140](#) (Richard Thompson)

587 [Q 148](#) (Samuel Larsen)

588 Tim Hess *et al.*, ‘Resilience of primary food production to a changing climate: on-farm responses to water-related risks’, *Water* 12(18), (30 July 2020): <https://www.mdpi.com/2073-4441/12/8/2155>

589 [QQ 140](#) and [157](#) (Richard Thompson)

590 Parliamentary Office of Science and Technology, *Water supply resilience and climate change*, [POSTbrief 40](#), May 2021

591 [Q 140](#) (Richard Thompson)

592 Parliamentary Office of Science and Technology, *Water supply resilience and climate change*, [POSTbrief 40](#), May 2021

593 Environment Agency, *Updated prospects for irrigation – forecast for 2023: summary* (27 April 2023): <https://www.nfuonline.com/media/pfgchdmk/april-2023-national-ea-updated-irrigation-prospects-overview-final.pdf> [accessed 8 September 2023]

594 [Q 141](#) (Richard Thompson)

due to leaching, and loss of agricultural land.⁵⁹⁵ It can also cause physical damage to plants.⁵⁹⁶

414. Furthermore, the HTA told us that “increasing stress on trees, such as that caused by varying levels of water accessibility, makes them particularly vulnerable to pests and diseases”.⁵⁹⁷ For example, when heavy precipitation during mild autumns follows periods of drought during the summer, this may also lead to increased exposure to plant diseases caused by fungi and rot.⁵⁹⁸
415. The horticulture sector is also a contributor to water pollution, which can be caused by manure, fertiliser and soil running off into rivers when it rains.⁵⁹⁹ Defra’s Catchment Sensitive Farming scheme works with farmers to help them mitigate this risk.⁶⁰⁰ Under ELMS, the Government plans to expand Country Stewardship to pay for new actions covering water management including managing features such as swales, bunds, silt traps and constructed wetlands to intercept and slow surface runoff.⁶⁰¹ Citing techniques such as rainwater harvesting, Mark Spencer MP told us that “the horticultural sector has a lot to offer in helping to mitigate some of the challenges of climate change on our journey to net zero”.⁶⁰²

New technologies

416. There are several ways in which technology is being utilised to support water management innovation in the controlled environment horticultural sector. Protected cropping typically demonstrates high water use efficiency.⁶⁰³ On our visit to the World Horti Center in the Netherlands (see Appendix 6), we saw how indoor growing can reduce water usage to grow lettuce. While outdoor growing typically uses 60 litres water, a lettuce grown in a greenhouse can use as little as five litres, whilst an indoor farm uses just 0.25 litres, the equivalent of a small water bottle.

595 US Environmental Protection Agency, *Climate change impacts of agriculture and food supply*: <https://www.epa.gov/climateimpacts/climate-change-impacts-agriculture-and-food-supply#16foot> [accessed 23 October 2023]

596 RHS, *Gardening in a changing climate* (2017): <https://www.rhs.org.uk/science/pdf/RHS-Gardening-in-a-Changing-Climate-Report.pdf> [accessed 23 October 2023]

597 Written evidence from HTA ([HSI0053](#))

598 RHS, Press Release: *RHS disease ranking reveals fruit trees under threat* on 4 March 2023: <https://www.rhs.org.uk/press/releases/rhs-disease-ranking-reveals-fruit-trees-under-thre> [accessed 26 October 2023]

599 Defra, ‘Funding boost for farmers to tackle water pollution’, (2 August 2021): <https://www.gov.uk/government/news/funding-boost-for-farmers-to-tackle-water-pollution> [accessed 8 September 2023]

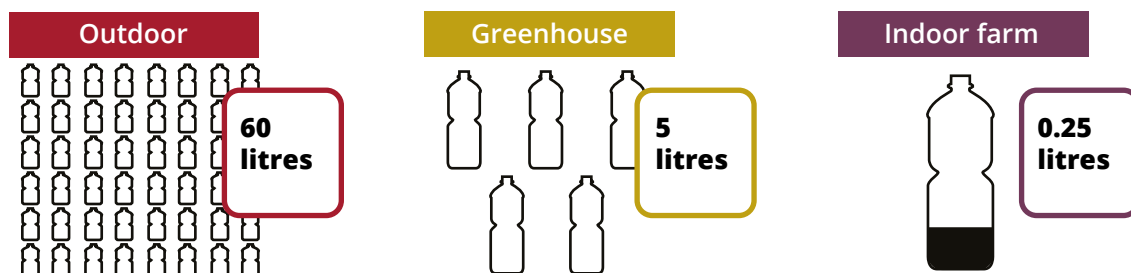
600 *Ibid.*

601 Defra, *Environment Land Management update: how government will pay for land-based environment and climate goods and services* (26 January 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1136855/Environmental-Land-Management-Update-January-2023-Accessible-Final.pdf [accessed 4 September 2023]

602 [Q 282](#) (Mark Spencer MP)

603 Written evidence from the School of Water, Energy and Environment, Cranfield University ([HSI0018](#))

Figure 6: Water usage to grow one lettuce in different farming environments



Source: Committee visit to the World Horti Center, Netherlands (see Appendix 6)

417. Methods for doing this may vary but can include the following:

- Hydroponics is a means of growing plants without soil by feeding plants on mineral nutrient salts dissolved in water. It uses less water than traditional methods.⁶⁰⁴
- Aeroponics circulates water vapour infused with nutrients around the roots of the plant, ensuring fast absorption.⁶⁰⁵
- Deficit irrigation relies on using less irrigation than the optimal amount. Studies have shown this could produce plants more equipped to deal with water deficit.⁶⁰⁶
- Precision breeding uses gene editing to create traits such as drought resilience by adapting organisms' genetic code. The Genetic Technology (Precision Breeding) Act (see Box 3) has legalised this in the UK, backed with up to £30 million Government investment.⁶⁰⁷ The BBSRC's Dr Beniston told us that gene editing can enable crops to be grown with longer roots so that they can access groundwater and tolerate salinity and can be watered by brackish water where fresh water is in short supply.⁶⁰⁸
- Routine monitoring using remote sensing and in-field sensing may enable further automation of inputs using robotics and digital agriculture systems using AI. Academics at Cranfield University told us that this could provide for built-in resilience to disease and protected soil and water resources.⁶⁰⁹

604 UN FAO, *Hydroponic fodder production: an innovative solution in times of drought* (16 February 2021): <https://www.fao.org/fao-stories/article/en/c/1374689/> [accessed 23 October 2023]

605 'How far can vertical farming go?', BBC (12 January 2023): <https://www.bbc.com/future/article/20230106-what-if-all-our-food-was-grown-in-indoor-vertical-farms> [accessed 26 October 2023]

606 Bohan Yang *et al*, 'Regulated deficit irrigation: an effective way to solve the shortage of agricultural water for horticulture', *Stress Biology* 2(28), (2022): <https://link.springer.com/article/10.1007/s44154-022-00050-5> [accessed 26 October 2023]

607 House of Lords Library, *Genetic Technology (Precision Breeding) Bill, HL Bill 64 of 2022–23 Library Briefing*, 9 November 2022. See also Parliamentary Office of Science and Technology, *Genome-edited food crops*, *POSTnote 663*, January 2022; Defra, Press Release: *Genetic Technology Act key tool for UK food security* on 23 March 2023: <https://www.gov.uk/government/news/genetic-technology-act-key-tool-for-uk-food-security>; PM's Office and Defra, Press Release: *Government backs British farmers with new package of support* on 15 May 2023: <https://www.gov.uk/government/news/government-backs-british-farmers-with-new-package-of-support> [accessed 26 October 2023]

608 *Q 159* (Dr Lee Beniston)

609 Written evidence from the School of Water, Energy and Environment, Cranfield University (*HSI0018*)

418. We were able to observe how these new technologies work in practice during a visit to Kent in June 2023 (see Box 4 and Appendix 5).

Box 4: The Water Efficient Technologies (WET) Centre

The Water Efficient Technologies (WET) is part of the National Institute for Agricultural Botany (NIAB) based at Growing Kent and Medway in East Malling. Established in 2017, the WET Centre demonstrates water use efficiency research for commercial strawberry growers in its ‘commercial area’. It also researches novel approaches to growing soft fruit crops in an ‘advanced area’. Precise microclimate control helps growers to improve consistency of yields and quality by optimising resource use.

We visited the WET Centre in June 2023 to see how water can be used more efficiently to produce higher and more consistent yields of soft fruit using the latest technologies and R&D approaches. Dr Mark Else explained how the centre is using high-tech irrigation equipment as well as sensors, robotics and automated tunnel technologies, in combination with innovative approaches to using substrates and fertigation practices (fertiliser and water combined). When it rains, runoff is collected from polytunnels and rainwater is harvested, which means that the Centre is 95 per cent self-sufficient.

We heard how scientists at the WET Centre work collaboratively with interdisciplinary teams spanning engineering, data science, machine learning and AI, and growers to develop solutions to industry challenges. We also heard about the importance of data collection to measure water productivity against industry best practice and overseas practices, such as in California. This work is expensive, and requires significant industry support to maintain.

Through this innovative R&D approach, the Centre has managed to achieve a reduction in water productivity values for strawberries, falling from 82 litres per kilogram to 40 litres per kilogram. Water use efficiency has dropped to just 28g per litre.

This work will be fundamental to enabling the horticulture sector to adapt to a future in which water resources are likely to be under significant strain both in the UK and around the world.

Source: NIAB, The WET Centre: <https://www.niab.com/the-wet-centre> [accessed 27 July 2023]; Committee visit to East Malling (see Appendix 5).

419. We have heard that there are significant challenges to delivering these new innovations. Dr Else told us that technological improvements such as electronically operated, smart watering systems are key but require support for growers to take them up on a widespread basis across multiple sites. He explained that costs remain a significant factor for growers when making investments in innovative technologies. He suggested that “more education about why water is important is key, as is more training in some of the high-tech systems”.⁶¹⁰
420. Richard Thompson told us that investing in R&D to improve water use efficiency “is probably of nearly equal, if not greater, importance to infrastructure to provide water”.⁶¹¹ However, we have heard that water management is being “left behind” in R&D streams.⁶¹² Martin Hillier told

610 [QQ 146](#) and [147](#) (Dr Mark Else)

611 [Q 152](#) (Richard Thompson)

612 Written evidence from EHG ([HSI0042](#))

us that Government funding for R&D is needed to support increased water efficiency, such as through technologies including rainwater harvesting and irrigation application.⁶¹³ High capital costs and funding challenges are seen as a significant barrier to effective and innovative R&D. These challenges are explored further in Chapter 5.

421. In June 2022, the Government announced over £30 million through the Farming Equipment and Technology Fund to help to pay for equipment such as rainwater harvesting tanks to help tackle water scarcity. It said 86 recipients would benefit from this specific funding, with a value of £110,802.⁶¹⁴

Abstraction licences

422. Historically, the sector manages its own water resource needs through abstraction, rather than receiving a supply for water companies. This includes groundwater abstraction (removal from an aquifer, a water-bearing rock) or river abstraction. The Environment Agency controls how much water is abstracted through a permit system.⁶¹⁵
423. The School of Water, Energy and the Environment at Cranfield University told us that 59 per cent of horticultural production is concentrated in catchments defined by the Environment Agency as over-licensed or over-abstracted.⁶¹⁶ The Government's Plan for Water commits to reducing abstraction from sensitive or over-abstracted areas and is reviewing the allocation of abstraction rights. At the same time, the Plan for Water said it would make it "easier and quicker for farmers to get abstraction licences".⁶¹⁷
424. Under the Environment Act 2021, the Secretary of State has powers to vary or revoke abstraction licences without compensation from 2028 where there is a risk of serious damage to the environment. Abstraction licences may also be revoked in order to remove excess headroom (the buffer amount held).⁶¹⁸ Maintaining headroom is one of the ways that growers can build resilience to water shocks.⁶¹⁹
425. We have heard concerns about the possible changes. Academics from Cranfield University told us that the plans "will negatively impact the sector's ability to expand production and cope with future droughts". It suggested more efforts should be directed towards implementing R&D approaches as highlighted above to mitigate some of these concerns.⁶²⁰
426. The NFUS told us that where abstraction licences had been suspended in the country, "the socio-economic and food production impact of suspending

613 Written evidence from Hiller Nurseries ([HSI0038](#))

614 Defra, Press Release: *Over £30m for new equipment to boost sustainable food production* on 8 June 2023: <https://www.gov.uk/government/news/over-30m-for-new-equipment-to-boost-sustainable-food-production> [accessed 26 October 2023]

615 Parliamentary Office of Science and Technology, *Water supply resilience and climate change*, [POSTbrief 40](#), May 2021

616 Written evidence from the School of Water, Energy and Environment, Cranfield University ([HSI0018](#))

617 Defra, *Plan for Water* (4 April 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1148704/Plan_for_Water_-_our_integrated_plan_for_delivering_clean_and_plentiful_water_PDF_version_.pdf [accessed 8 September 2023]

618 Environment Act 2021, [Part 5, 88](#)

619 Chloe Sutcliffe *et al*, 'Managing irrigation under pressure: how supply chain demands and environmental objectives drive imbalance in agricultural resilience to water shortages' *Agricultural Water Management*, vol. 243, (1 January 2021): <https://www.sciencedirect.com/science/article/abs/pii/S0378377420307228?via%3Dihub>

620 Written evidence from the School of Water, Energy and Environment, Cranfield University ([HSI0018](#))

abstraction licences in vegetable growing areas was very high”.⁶²¹ Similarly, Martin Hillier, Director of Hillier Nurseries, told us that the ability to revoke abstraction licences without compensation could “fundamentally impact a horticultural business”. He suggested a review of the legislation and more support for rainwater harvesting and reservoir construction.⁶²²

427. Richard Thompson told us about the opportunities provided by new local abstractor groups working together to secure new resource. This may prove valuable for smaller businesses who can find the processes for applying for planning or changing abstraction licences challenging.⁶²³
428. At the Government’s Farm to Fork Summit in May 2023, the Government set out that it would support the sector by “increasing water security by accelerating work on water supply infrastructure, so that farmers can count on steady access to water, including in periods of intense dry weather”.⁶²⁴ This includes plans to make abstraction licences more flexible, to create national and regional Water Resource Management Plans, and to support farmer-led groups to identify local water resource schemes to support farmers with access to water.⁶²⁵

Reservoirs

429. In addition to abstraction rules, concern has been expressed about planning for reservoirs. The last reservoir constructed was Carsington, which opened for use in 1992. We share the concerns of the Industry and Regulators Committee, which reported in March 2023 that, under current plans, not a single major reservoir was built in the UK, or will be built, between 1991 and 2029.⁶²⁶
430. We have heard that the process of achieving planning permission for water infrastructure projects is cumbersome. Samuel Larsen told us that “over the last couple of decades, it has been very difficult to get major infrastructure schemes, particularly in the water industry, through that local authority planning process”, singling out reservoirs as particularly difficult assets.⁶²⁷ Richard Thompson explained that this is due to both negative impact on communities in the context of a potentially limited evidence base, and local opposition.⁶²⁸
431. David Knight, a grower from Kent, told us that given the impacts of climate change on orchards, there will be a need for new reservoirs and boreholes.⁶²⁹ However, we have heard that challenges including high capital costs and planning policy are hindering these ambitions.⁶³⁰

621 Written evidence from NFU Scotland ([HSI0013](#))

622 Written evidence from Hillier Nurseries ([HSI0038](#))

623 [Q 148](#) (Richard Thompson)

624 PM’s Office and Defra, Press Release: *Government backs British farmers with new package of support* on 15 May 2023: <https://www.gov.uk/government/news/government-backs-british-farmers-with-new-package-of-support> [accessed 26 October 2023]

625 HC Deb, 16 May 2023, [UIN HCWS775](#)

626 Industry and Regulators Committee, *The affluent and the effluent: cleaning up failures in water and sewage regulation* (1st Report of Session 2022–23, HL Paper 166)

627 [Q 148](#) (Samuel Larsen)

628 [Q 153](#) (Richard Thompson)

629 Written evidence from David Knight ([HSI0005](#))

630 Written evidence from British Berry Growers ([HSI0054](#))

432. The British Independent Fruit Growers' Association suggested that if growers are willing and able to provide sites for on-farm reservoirs, the Government or water boards should pay for their construction. The organisation also suggested this could provide opportunities for hydroelectric power.⁶³¹ Sustain told us that grants should be provided to help growers invest in on-farm reservoirs.⁶³² The HTA shared this view, and suggested that gaining planning permission for larger reservoirs was one of the “greatest barriers to horticultural businesses being able to increase their water storage capacity and reduce reliance on mains water”, alongside high capital costs.⁶³³
433. Grants for ornamental and edible horticultural growers to build on-farm reservoirs to secure water supplies for crop irrigation are available through the £20 million Water Management Grant, which was expanded under the Plan for Water.⁶³⁴ Under round two, the minimum grant is £35,000 with a maximum of £500,000, and the grant covers up to 40 per cent of the cost.⁶³⁵ We recognise that this remains a significant financial burden on the grower. Furthermore, Richard Thompson told us that it could only make a “meaningful but not significant difference at the minute”.⁶³⁶ In addition, the Farming Transformation Fund has offered support for investments in water management.⁶³⁷
434. The Plan for Water committed to prioritise applications for farm storage reservoir grants and associated habitat risk assessments, in addition to a call for evidence on planning barriers faced by small reservoir holders.⁶³⁸ The National Policy Statement for Water Resources Infrastructure aims to streamline the planning permission process for nationally-significant water infrastructure projects (such as reservoirs, recycling and transfer schemes), enable new water supply infrastructure and provide guidance for applicants.⁶³⁹ Mark Spencer MP said: “we need to make sure that the Environment Agency and local planning authorities are sympathetic to the applications and expedite the process of planning. At the same time, we must make sure that we have protections in place so that they are not put in the wrong location”.⁶⁴⁰

631 Written evidence from BIFGA ([HSI0016](#))

632 Written evidence from Sustain ([HSI0030](#))

633 Written evidence from HTA ([HSI0053](#))

634 Rural Payments Agency, *About the Water Management Grant Round 2, who can apply and what the grant can pay for* (updated 29 August 2023): <https://www.gov.uk/government/publications/water-management-grant-round-2/about-the-water-management-grant-round-2-who-can-apply-and-what-the-grant-can-pay-for> [accessed 14 September 2023]; efra, *Plan for Water* (4 April 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1148704/Plan_for_Water_-_our_integrated_plan_for_delivering_clean_and_plentiful_water_PDF_version_.pdf [accessed 8 September 2023]; written Answer [UIN 195039](#), Session 2022–23

635 Defra, ‘Apply for a Water Management grant’, (19 April 2023): <https://defrafarming.blog.gov.uk/2023/04/19/apply-for-a-water-management-grant/> [accessed 8 September 2023]; Defra, ‘Water Management grants: get ready for round 2’, (4 April 2023): <https://defrafarming.blog.gov.uk/2023/04/04/water-management-grants-get-ready-for-round-2/> [accessed 8 September 2023]

636 [Q 151](#) (Richard Thompson)

637 Written evidence from Defra ([HSI0087](#))

638 Defra, *Plan for Water* (4 April 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1148704/Plan_for_Water_-_our_integrated_plan_for_delivering_clean_and_plentiful_water_PDF_version_.pdf [accessed 8 September 2023]

639 Defra, *National policy statement for water resources infrastructure* (17 April 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1150075/E02879931_National_Policy_Statement_for_Water_Resources.pdf [accessed 8 September 2023]; NFU, ‘New Defra plan offers additional water investment for farmers’, (5 April 2023): <https://www.nfonline.com/updates-and-information/new-defra-plan-offers-additional-water-investment-for-farmers/> [accessed 23 October 2023]

640 [Q 286](#) (Mark Spencer MP)

435. The National Policy Statement also set out that “to address future pressures on the system we need new water supplies from multiple sources, including reservoirs, water recycling, and water transfers from one part of the country to another”. Mark Spencer MP accepted the value of using the UK’s canals infrastructure to make such transfers from the north-west to water shortage areas in the south-east, adding that this is the “right thing to do”.⁶⁴¹
436. Where new reservoirs are proposed, there is clearly a role for greater resource sharing. Richard Thompson told us that “if we can build the needs of other water users into reservoir design and location, those reservoirs could provide sources of water, not just in terms of increasing capacity so that more people have access to mains water but potentially for use in other sectors”. He cited aspirations for greater collaboration on two proposed reservoirs in the East of England.⁶⁴² The Plan for Water sets out plans to improve collaboration between those who have spare water with farmers who do not have enough.⁶⁴³
437. The Third National Adaptation Programme set out that the Government will explore targeted scope expansion for the fourth round of climate adaptation reporting to include additional reporting on canals, reservoirs and food supply. It will explore inviting public bodies in the horticulture sector to report under the Adaptation Reporting Power (ARP), which directs infrastructure operators and public bodies to report on risks that affect them and how they are managing them, to drive adaptation and increase understanding of the agri-food sector’s preparedness for climate impacts.⁶⁴⁴ We would welcome this move.

Overseas water extraction

438. The UK’s reliance on imports means that it is contributing to water resource use overseas. The Fruit and Vegetable Alliance told us that since most fruit and vegetables are over 80 per cent water, the majority of imported produce is essentially importing water from water-scarce countries, a practice it said was “unethical, unsustainable and poses significant risks to security or supply”.⁶⁴⁵
439. This view was shared by the Food Foundation, who told us that the supply of fruit and vegetables from countries likely to face high to extremely high water stress in the near future (2040) has increased from 41 per cent to 54 per cent between 1987 and 2013. It argued that meeting increases in consumption through UK production would “deliver greater water footprint reductions with similar life expectancy gains and slightly smaller greenhouse gas emissions reduction”.⁶⁴⁶
440. British Berry Growers agreed, arguing that increasing British berry production using effective water management, including processes like rain-

641 *Ibid.*

642 [Q 141](#) (Richard Thompson)

643 Defra, *Plan for Water* (4 April 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1148704/Plan_for_Water_-_our_integrated_plan_for_delivering_clean_and_plentiful_water_PDF_version_.pdf [accessed 8 September 2023]

644 Defra, *The third National Adaptation Programme (NAP3) and the fourth strategy for climate adaptation reporting*, HC 1649 (17 July 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1172931/The_Third_National_Adaptation_Programme.pdf [accessed 23 October 2023]

645 Written evidence from FVA ([HSI0061](#))

646 Written evidence from the Food Foundation ([HSI0035](#))

water capture, would reduce the importation of produce from water-stressed areas like southern Morocco.⁶⁴⁷

Amateur gardeners

441. Amateur horticulturalists face significant challenges in reducing their own water use in their homes and gardens.
442. Samuel Larsen told us that water companies “provide advice about water efficiency and what customers can do to respond to climate change and make themselves more resilient”, adding that they would step up this activity for the period from 2025 onwards.⁶⁴⁸ For example, South West Water has provided advice to help gardeners to order a water butt, while Southern Water offered free water butts to select residents to support flood prevention.⁶⁴⁹ Severn Trent’s ‘Get Water Fit’ campaign supports consumers to make savings at home.⁶⁵⁰ This action can support water companies to meet their Per Capital Consumption commitments.
443. Influencers can also play a role. Samuel Larsen highlighted the role of RHS advice and guidance for growers on irrigation and using less water.⁶⁵¹ Dr Else told us that there was a need for training, guidance and education across the professional and amateur sector, including through use of demonstration sites.⁶⁵²
444. Drought-tolerant planting may be one solution. Examples of drought-tolerant plants include small shrubs such as lavender and hanging basket plants such as pelargonium.⁶⁵³ The Young People in Horticulture Association told us that its members recognised that it was “everyone’s job to help educate others on drought resistant plants”.⁶⁵⁴ However, transitioning can be a challenge even for experienced growers. Alex Wigley, Head of Gardens and Estates at Historic Royal Palaces, told us that a challenge at Hampton Court Palace was maintaining the bold displays visitors are used to using peat-free compost in circumstances of high heat and water shortage. He said that “our biggest challenge is moving to more sustainable planting schemes which are perennial, drought tolerant but still evoking the same high horticulture flamboyant effects”.⁶⁵⁵
445. This issue links to the peat debate. Samuel Larsen suggested that biochar, organic material that has been carbonised with little or no oxygen and which retains moisture and nutrients effectively, could present an alternative to peat. Production is small at present, and he encouraged greater R&D and innovation to support what he said could be a “great solution”.⁶⁵⁶

647 Written evidence from British Berry Growers ([HSI0054](#))

648 [Q 150](#) (Samuel Larsen)

649 South West Water, *How do I order a water butt?*: <https://www.southwestwater.co.uk/frequently-asked-questions/saving-water/how-do-i-order-a-water-butt/> [accessed 23 October 2023]; Southern Water, *Southern Water offer free water butts to Havenstreet residents* (28 July 2022): <https://www.southernwater.co.uk/the-news-room/the-media-centre/2022/july/southern-water-offer-free-water-butts-to-havenstreet-residents> [accessed 23 October 2023]

650 Severn Trent Water, *Get Water Fit*: <https://www.stwater.co.uk/wonderful-on-tap/save-water/get-water-fit/#/> [accessed 23 October 2023]

651 [Q 150](#) (Samuel Larsen)

652 [Q 152](#) (Dr Mark Else)

653 Royal Horticultural Society, *Drought-resistant plants*: <https://www.rhs.org.uk/plants/for-places/drought-resistant> [accessed 23 October 2023]

654 Written evidence from the Young People in Horticulture Association ([HSI0068](#))

655 Written evidence from Alex Wigley ([HSI0074](#))

656 [Q 158](#) (Samuel Larsen)

446. Academics from Cranfield University told us that there was an increased need for drought-resistant cultivars in the UK, in particular using gene editing and phenotyping, which is now possible through the Genetic Technology (Precision Breeding) Act (see Box 3).⁶⁵⁷
447. **It is clear that climate change will continue to impact water availability both now and in future. If the horticultural sector is not effectively supported to transition to sustainable water management practices, ornamental horticulture and UK food security will be seriously jeopardised. The Plan for Water is welcome but water management in the horticulture sector requires a tailored approach.**
448. *The proposed Horticulture Strategy must detail how it will support the sector to achieve the ambitions announced in the Plan for Water.*
449. **The sector is innovating at pace. New technological and scientific developments such as breeding cultivars with better drought tolerance and genetic editing for drought resilience are promising and support through the Farming Innovation Programme is welcome, but they require effective and innovative R&D and collaboration with industry.**
450. *The Government must continue to support innovative gene editing programmes in close collaboration with academia and industry and must communicate the findings of such studies to industry to translate research into practice. A biannual report on the Farming Innovation Programme should be an effective vehicle for this.*
451. **While there is a clear need for water usage to be reduced across the board, current plans to restrict abstraction licences may compromise food security and the supply of ornamental plants.**
452. *The Government must continue to explore how horticultural growers can access technical support to obtain an abstraction licence and take steps to reduce the length of time taken to determine applications.*
453. **The last reservoir to be opened was over thirty years ago. Growers need a more supportive planning system to harvest high flows and reduce dependence on abstraction during the summer.**
454. *The Government must urgently publish its call for evidence on the planning barriers to small reservoirs with a view to helping land managers with water supply. It must make good on its National Policy Statement for Water Resources Infrastructure and must streamline the planning permission process for nationally significant water infrastructure projects, enable new water supply infrastructure and provide planning guidance for applicants.*
455. **While Water Management Grants are welcome, the scheme could be amended to be more flexible for a wider range of businesses.**
456. *The Government should lower the investment minimum for Water Management Grants to enable small businesses to benefit and continue to work with the sector to streamline the scheme to make it more accessible to a wider range of growers.*

657 Written evidence from the School of Water, Energy and Environment, Cranfield University ([HSI0018](#))

457. **The Committee welcomes the Government’s consideration to inviting public bodies in the agriculture and horticulture sector to report under the Adaptation Reporting Power as stated in the third National Adaptation Programme. Consideration of the inclusion of canals and reservoirs as well as reporting on food supply within the Adaptation Reporting Power as set out in the Third National Adaptation Programme is also welcome.**
458. *The Government must press ahead with these proposals and update the industry on its consideration in relation to horticulture in a timely fashion.*
459. **Both amateur and professional growers require more support to transition to effective water management.**
460. *The Government should work with the industry to support campaigns for industry to help businesses and consumers to reduce water use in professional and amateur horticultural settings.*

Land use and planning

461. Horticulture is a highly productive sector per hectare and takes up a relatively small amount of land compared with other forms of agriculture.⁶⁵⁸ Sector figures show that it accounts for less than 2 per cent of farmed land in the UK, but approximately 20 per cent of farm-gate value.⁶⁵⁹
462. As of June 2023, the utilised agricultural area in England is 8.8 million ha, 68 per cent of the total area of England. Horticultural crops take up 116,540ha of land.⁶⁶⁰ 92 per cent of this land is used to grow fruits and vegetables (see Figure 2). The proportion of land used to grow hardy nursery stock, bulbs and flowers is 8 per cent (8,798 ha).⁶⁶¹

Land use

463. Land use is under significant pressure in England today. In 2022, a House of Lords Committee reported that “we are now facing the challenges and opportunities of a new environment where nature and biodiversity restoration, carbon sequestration, new development and infrastructure needs and the role of the land for energy, access and wellbeing are all taking on a greater priority”.⁶⁶²
464. In June 2022, the Government pledged to publish a land use framework, although this has not yet been published.⁶⁶³ Support for a framework has been forthcoming, within which we have heard about the importance of developing a cohesive strategy for land use in tandem with food, environmental

658 Written evidence from the Soil Association ([HSI0040](#))

659 [Q 76](#) (Clare Mike) and [Q 91](#) (Ali Capper); written evidence from NFU ([HSI0029](#))

660 Defra, ‘Agricultural land use in England at 1 June 2023’ (updated 28 September 2023): <https://www.gov.uk/government/statistics/agricultural-land-use-in-england/agricultural-land-use-in-england-at-1-june-2023> [accessed 16 October 2023]

661 Defra, ‘Agricultural land use in England’ (updated 28 September 2023): <https://www.gov.uk/government/statistics/agricultural-land-use-in-england> [accessed 19 October 2023]

662 Land Use in England Committee, *Making the most out of England’s land* (Report of Session 2022–23, HL Paper 105)

663 Defra, *Government food strategy*, CP 698 (June 2022): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1082026/government-food-strategy.pdf [accessed 23 October 2023]

management and horticultural strategies.⁶⁶⁴ Others have argued that such a framework should be joined up with local planning frameworks to identify the expansion of horticulture into new areas.⁶⁶⁵

465. In particular, we heard that expanding land used for horticulture into urban and peri-urban areas (such as areas on the outskirts of cities) could support the creation of shorter, local supply chains that can support the mitigation of climate change and bolster local economies.⁶⁶⁶ The Soil Association told us that through decentralising the sector and incentivising agroecological horticultural practices around the country, pressure on the lowland peatlands can be reduced and new opportunities can be boosted beyond the existing farmed landscape.⁶⁶⁷
466. This could have related benefits for climate change mitigation. Lord Deben told us that horticulture has a role to play in developing a land use policy that takes climate change fully into account. He emphasised that this requires a change in diet.⁶⁶⁸ The Food Foundation modelled the potential impacts on biodiversity resulting from a shift in diet and land use. It found that a transition to diets containing more vegetables and less meat (on a per kcal basis) could result in potential gains to biodiversity in the UK if the amount of land used for meat production was reduced in line with shifting dietary patterns.⁶⁶⁹
467. Controlled Environment Horticulture (CEH), such as high-tech glasshouses and vertical farms, is a highly efficient use of land.⁶⁷⁰ Defra recognises that obtaining planning permission for CEH is perceived as complex, time consuming and costly.⁶⁷¹ This is representative of perceptions of planning across the sector, which wrote to us about “overly bureaucratic processes” at the local authority level, long delays in decision-making, and a lack of consistency in planning decisions.⁶⁷² It is clear a more consistent and enabling approach should be taken.
468. At its Farm to Fork Summit in May 2023, the Government said it would investigate what more can be done to support the sector and would revise national planning policy to make the approval of CEH a priority for councils. It also promised to ensure that the planning system responds to the challenges facing farmers. This included plans to launch a call for evidence on the best way to address barriers that farmers and land managers face when delivering projects to improve sustainable food production, nature and biodiversity.⁶⁷³
469. The National Planning Policy Framework (NPPF) sets out the Government’s planning policies for England and how these are applied. The Government is currently analysing responses to its consultation on reforms to national

664 Written evidence from Prof Richard Napier ([HSI0012](#))

665 Written evidence from Sustainable Food Places ([HSI0047](#))

666 *Ibid.*

667 Written evidence from the Soil Association ([HSI0040](#))

668 [Q 69](#) (Lord Deben)

669 Written evidence from the Food Foundation ([HSI0035](#))

670 Written evidence from Defra ([HSI0087](#))

671 *Ibid.*

672 Written evidence from John Hall ([HSI0028](#)), Hall Hunter Partnership ([HSI0023](#)) and NFU ([HSI0029](#))

673 Defra and PM’s Office, *An update following the UK Farm to Fork summit held at 10 Downing Street on 16 May 2023* (16 May 2023): <https://www.gov.uk/government/publications/outcomes-from-the-uk-farm-to-fork-summit/an-update-following-the-uk-farm-to-fork-summit-held-at-10-downing-street-on-16-may-2023> [accessed 4 September 2023]

planning policy. The consultation suggested measures to ensure the food production value of high value farmland is adequately weighted in the planning process alongside measures to enhance the natural and local environment. It also asked how planning policy could support climate change adaptation, specifically through the use of nature-based solutions that provide multi-functional benefits.⁶⁷⁴

Urban environments

470. Horticulture can take place in urban environments both through CEH such as vertical farms, and through the greening of urban landscapes such as through roof gardens, vertical walls, and domestic gardens, balconies or terraces. This network of multi-functional green spaces and natural features is known as green infrastructure, and is “capable of delivering a wide range of environmental, economic, health and wellbeing benefits for nature, climate, local and wider communities and prosperity”, according to the NPPF.⁶⁷⁵ We were disappointed to hear Mark Spencer MP say that “there is an argument to say that it is not as high a priority as food production” in this context.⁶⁷⁶ However, we are pleased that the EFRA Committee will explore this topic in its new inquiry.⁶⁷⁷
471. The utilisation of green spaces in urban environments through such green infrastructure can help to support the reduction of urban heating and surface water flooding. For example, Dr Ian Mell, Reader in Environmental and Landscape Planning at the School of Environment, Education and Development at the University of Manchester, told us that energy savings of 6.7 per cent can be seen in the space directly below a green roof, which also benefits from 11 decibel noise reduction. A green wall can result in a 2.7 degrees Celsius reduction in indoor temperature, while an urban park or green space can result in 84.2 per cent rainwater runoff retention.⁶⁷⁸
472. In order to support this, changes to the planning environment are required. The Royal Botanic Garden Edinburgh told us that “the practical operational mix of incentives and penalties is missing” to encourage such green infrastructure development.⁶⁷⁹ Dr Mell told us that the current approach taken by the NPPF and Local Planning Authorities varies and does not take a universal approach to valuing nature, which varies significantly by postcode depending on local governments. Dr Mell called for long-term, significant investment in nature through adopting green infrastructure and nature-based solutions as ‘essential infrastructure’. Delivering on urban greening ambitions will require “extensive collaboration between landowners, local government, communities, developers, and other built and natural environment organisations”.⁶⁸⁰ In addition, we say that crucial

674 DLUHC, *Levelling-up and Regeneration Bill: reforms to national planning policy* (22 December 2022): <https://www.gov.uk/government/consultations/levelling-up-and-regeneration-bill-reforms-to-national-planning-policy> [accessed 8 September 2023]

675 DLUHC, *National Planning Policy Framework* (updated 20 July 2021): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf [accessed 6 September 2023]

676 *Q 277* (Mark Spencer MP)

677 See EFRA Committee, ‘Urban Green Spaces’: <https://committees.parliament.uk/work/7932/urban-green-spaces/>

678 Written evidence from Dr Ian Mell ([HSI0091](#))

679 Written evidence from RBG Edinburgh ([HSI0031](#))

680 Written evidence from Dr Ian Mell ([HSI0091](#))

to this is partnership between gardeners, garden and nursery businesses and local authorities to help to make urban greening a reality.

473. This point was also raised by Danny Hubard, Education Manager at Walworth Garden, who told us that horticultural insight must be sought at the planning stage of developments, describing green roofs as an “afterthought” in the process at present, leading to the failure of proposed schemes.⁶⁸¹
474. The APPG for Gardening and Horticulture suggested the NPPF should prioritise the development or expansion of gardens, with consideration given to ensuring plant diversity. Furthermore, it argued that the presumption in favour of sustainable development in the NPPF should be applied to horticulture. It raised the importance of greening housing stocks, such as through green roofs, introducing tax breaks for the re-greening of gardens that have been paved over, and by providing for a minimum ration of new housing to green spaces in new build areas. It also highlighted that any measures to deliver urban green spaces must also provide for their maintenance thereafter.⁶⁸²
475. Vertical farm company Intelligent Growth Solutions said that planning and building regulations should be reviewed to meet the requirements of indoor farms rather than the current approach of fitting them into existing requirements for agricultural developments. It told us that “a clearer approach for national planning policy guidelines is crucial, particularly when bringing growing into the urban environment”.⁶⁸³
476. Steph Wetherell, Coordinator at Bristol Food Producers, told us that urban farms under 5ha face “a lot of hoops” to get planning permission to put up agricultural structures.⁶⁸⁴ At present, sites over 5ha do not need planning permission for agricultural buildings (such as polytunnels), and they are also historically ineligible for farm subsidies under the Basic Payment Scheme (which is being replaced by ELMS with the threshold remaining), however many urban farms are smaller than this.⁶⁸⁵ We heard from urban and peri-urban growers that there should be no size limit to peri-urban farm eligibility for support schemes.⁶⁸⁶
477. Planning for water resources is explored earlier in this chapter, while community gardens and allotments are explored in Chapter 6.

Biodiversity Net Gain

478. The concept of Biodiversity Net Gain (BNG) was introduced by the Environment Act 2021 and aims to contribute to the recovery of nature while developing land. From January 2024, new regulations will require developers under the Town and Country Planning Act 1990 to deliver 10

681 Written evidence from Walworth Garden ([HSI0083](#))

682 Written evidence from the All-Party Parliamentary Gardening and Horticulture Group ([HSI0041](#))

683 Written evidence from Intelligent Growth Solutions ([HSI0059](#))

684 [Q 181](#) (Steph Wetherell)

685 HM Government, ‘Planning permission for farms’: <https://www.gov.uk/planning-permissions-for-farms/permitted-development> [accessed 1 August 2023]; Defra and Rural Payments Agency, *Sustainable Farming Incentive (SFI) Handbook for the SFI 2023 offer* (21 June 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1168886/SFI23_handbook_V1.0.pdf [accessed 6 September 2023]

686 Written evidence from Bristol Food Producers *et al* ([HSI0027](#)) and Rosalie Maunder ([HSI0006](#)); [Q 190](#) (Steph Wetherell)

per cent BNG unless exempt.⁶⁸⁷ They must try to avoid loss of habitat or create habitat either on or off-site. Land managers can get paid by selling biodiversity units. The policy will apply to small sites from April 2024.⁶⁸⁸

479. Dr Mell told us that it is unclear whether the policy will be as effective. If achieved, he suggested that “new developments will have a greater resilience to issues such as climate change, as well as being more enjoyable places to live”. This relies on factors including:
- The ecological expertise of planners and developers;
 - The methods used to calculate the baseline ecological position of a site;
 - Balancing the issues developers claim limit them in delivering the policy with the legal structures for enforcement.⁶⁸⁹
480. We have heard concerns that there is too little understanding of how the policy will work in the councils that will have to implement it.⁶⁹⁰ The Government has promised £16 million to support local planning authorities with oversight to expand resources and upskill teams, including ecologists.⁶⁹¹
481. Enforcement of the policy will be critical to its success.⁶⁹² BALI’s Wayne Grills, told us that the policy “has the potential to arrest the decline in urban green space”, however it relies on strong oversight. He cautioned against taking a ‘snapshot’ approach to measuring biodiversity and using longer-term approaches, and warned that maintenance of green spaces once established would be essential to ensuring true net gain.⁶⁹³
482. Joining up the policy with other areas of the planning process has been raised as a concern. Dr Burn of the National Allotment Society told us that the BNG policy does not align with local authority allotment strategies. She expressed concern that a private allotment site could be lost and replaced due to the policy.⁶⁹⁴ This was picked up by Bristol Food Producers coordinator Steph Wetherell who expressed concern that “the destruction of one established habitat is not equal to the creation of a new habitat”.⁶⁹⁵
483. Martin Emmett, Chair of the NFU Board for Horticulture and Potatoes and Strategy Director at Tristram Plants, expressed significant concerns about the impact on greenhouse developments. He told us that such developments will need to either curtail the scale of development to make provision for

687 Defra, ‘Biodiversity Net Gain moves step closer with timetable set out’ (27 September 2023): <https://www.gov.uk/government/news/biodiversity-net-gain-moves-step-closer-with-timetable-set-out> [accessed 16 October 2023]

688 Defra, *Understanding biodiversity net gain* (updated 23 February 2023): <https://www.gov.uk/guidance/understanding-biodiversity-net-gain> [accessed 6 September 2023]; Defra, Press Release: *New developments to deliver for people and nature* on 21 February 2023: <https://www.gov.uk/government/news/new-developments-to-deliver-for-people-and-nature>; Defra, ‘What you can count towards a development’s biodiversity net gain (BNG)’, (2 May 2023): <https://www.gov.uk/guidance/what-you-can-count-towards-a-developments-biodiversity-net-gain-bng> [accessed 15 September 2023]

689 Written evidence from Dr Ian Mell ([HSI0091](#))

690 Written evidence from Wildflower Turf Ltd ([HSI0014](#))

691 Defra, Press Release: *New developments to deliver for people and nature* on 21 February 2023: <https://www.gov.uk/government/news/new-developments-to-deliver-for-people-and-nature> [accessed 26 October 2023]

692 [Q 199](#) (Patricia Wallace)

693 [Q 198](#) (Wayne Grills)

694 [QQ 181](#) and [182](#) (Dr Deborah Burn)

695 [Q 183](#) (Steph Wetherell)

additional biodiversity or buy additional land or ‘biodiversity credits’ to offset against impacts. He suggested an exemption for the sector due to its overall more efficient use of natural resources resulting in the overall footprint, and the output of such enterprises, such as direct provision for biodiversity. He argued that the policy was directly in contrast to the Government’s plans to improve the planning environment for CEH. Martin gave the example of APS Group, the largest producer of protected salad crops in the UK, which has argued that BNG risks driving food production abroad where biodiversity concerns are seen as lower priority.⁶⁹⁶

484. Mark Spencer MP told us that it was a challenge to coordinate with DLUHC on this policy, however he assured us he was representing the sector in conversations with the Department.⁶⁹⁷ He was positive in his acknowledgement of the benefit that greenhouses can provide in mitigating some of the challenges of meeting net zero targets but did not support an exemption outright.⁶⁹⁸
485. **The Government has promised to develop a land use framework, however so far no such framework has materialised. It is vital this framework is published to ensure net zero and biodiversity targets are met.**
486. *The Government must publish its long-awaited Land Use Framework as promised in 2023. Policy relating to horticulture must be clearly marked within this strategy.*
487. **Innovative urban and vertical farms can provide a vital food source to city populations, cutting down on food miles and providing additional environmental benefits in the process. They provide innovative spaces for agri-tech and could provide jobs for local people. While their small space is part of their benefit, however it is also causing these businesses to be hampered by the inability to take advantage of farm subsidies.**
488. *The Government should remove the 5ha limit on eligibility for ELMS to support urban farms. It should consult on business rates for vertical farming and amend the NPPF to reflect their status as agricultural businesses.*
489. **Biodiversity Net Gain is a fundamentally positive strategy to increase biodiversity and replace or restore green space damaged due to development either onsite or offsite. However, we are concerned that allotments are not considered as part of this framework, while protected horticulture developments (which are actively promoting biodiversity) may actually be hampered by the proposals. We remain concerned about enforcement related to the upkeep of BNG spaces once created.**
490. *The Government should include allotments within the framework for Biodiversity Net Gain and introduce an exemption for such horticulture developments. The Government must set out how*

696 Supplementary written evidence from Martin Emmett ([HSI0089](#))

697 [Q 282](#) (Mark Spencer MP)

698 *Ibid.*

developers and local authorities will ensure the maintenance of BNG spaces.

Energy transition

491. In 2019, 22 per cent of global greenhouse gas emissions came from agriculture, forestry and other land use.⁶⁹⁹ The horticulture sector emits such gases through glasshouse heating, transport and refrigeration, amongst other uses of energy.⁷⁰⁰ Like other sectors, the horticultural sector is under pressure to transition away from greenhouse gas use to support its broad energy, heat and power requirements in order to safeguard against further environmental damage.
492. New technologies may provide opportunities to move away from greenhouse gases. Professor Rose and Kirsten Ayris from the Change in Agriculture research group highlighted the work of the Innovate UK-funded Robot Highways project, which intended to demonstrate autonomous robotic solutions for picking, packing, forecasting, logistic support, and disease treatment. It plans to eliminate fossil fuel use across all farm logistic operations as its robots run on renewables.⁷⁰¹
493. Defra's Tim Mordan told us about work underway on next-generation robotic vehicles powered using renewable energy.⁷⁰² For example, in August 2023, the Government announced the winners of a £50 million competition to accelerate manufacturing. One of the winners is Dolphin N2, who are creating a tractor fuelled by hydrogen made on farm from renewables.⁷⁰³
494. We have heard that renewable energy generation is increasingly being adopted on-farm and has the opportunity not only to support food production but to export energy back to the grid.⁷⁰⁴ Alternative sources of energy might include the following:
- Combined Heat & Power (CHP) is an efficient system that captures and utilises heat produced by electricity generation. It generates heat and power simultaneously and can reduce carbon emissions by up to 30 per cent compared to conventional generation means.⁷⁰⁵ This system can be fuelled by natural gas and utilise the heat produced by greenhouse engines.⁷⁰⁶ It can provide electricity back to the National

699 IPCC, *Synthesis Report of the IPCC Sixth Assessment Report (AR6): Summary for policymakers* (20 March 2023): https://report.ipcc.ch/ar6syr/pdf/IPCC_AR6_SYR_SPM.pdf [accessed 15 September 2023]

700 Royal Agricultural Society of England, *Decarbonising UK horticultural production* (March 2022): <https://vm-01-crm02.altido.com/clients/rase-c3c5ffc2133a3eed/uploads/documents/website-report/Decarbonising%20UK%20Horticultural%20Production%20digital.pdf> [accessed 15 September 2023]

701 Written evidence from Prof David Rose and Kirsten Ayris ([HSI0004](#))

702 [Q 10](#) (Tim Mordan)

703 Department for Business and Trade, HM Treasury and Department for Science, Innovation and Technology, Press Release: *Over £50 million awarded to cutting edge manufacturing projects* on 4 September 2023: <https://www.gov.uk/government/news/over-50-million-awarded-to-cutting-edge-manufacturing-projects> [accessed 26 October 2023]

704 Written evidence from FVA ([HSI0061](#))

705 Department for Energy Security & Net Zero and Department for Business, Energy & Industrial Strategy, *Combined heat and power* (updated 6 October 2020): <https://www.gov.uk/guidance/combined-heat-and-power> [accessed 8 September 2023]

706 Written evidence from the Institution of Agricultural Engineers ([HSI0048](#))

Grid and produce heat and CO₂ for glasshouse crops.⁷⁰⁷ Biogas can help to power CHP units.⁷⁰⁸

- Biogas or biomethane is a renewable energy source produced by anaerobic digestion (the breakdown of microorganisms without oxygen). It can be used as a replacement for natural gas.⁷⁰⁹
- Biomass installations can consume woodchip as fuel instead of gas or oil to heat greenhouses.⁷¹⁰
- Wind power can be harnessed on horticultural land.⁷¹¹ Grower Alex Charrington told us that while their farm is capable of generating power, wind turbines are too expensive at present and requires significant capital investment.⁷¹²
- Solar power can be harnessed on glasshouses, polytunnels or the roofs of farm buildings.⁷¹³
- Ground and water Source Heat Pumps can be used to source electricity.⁷¹⁴

495. However, we have also heard a range of challenges in making this transition to decarbonise the electricity system as part of moves towards achieving net zero by 2050. A recent Government-commissioned review published in August by the Electricity Networks Commissioner reported that the UK's current energy policies are “badly out of date”, with billions in investment required to modernise grid infrastructure.⁷¹⁵

496. HortWeek's Matthew Appleby noted that growers suffer from planning constraints and “nimby issues; people do not want solar panels on land near where they live”.⁷¹⁶ We also heard that some of these options may not be appropriate for the sector. Solar power cannot be harvested all year round. Grower Alex Charrington told us that the solar panels on his farm produce power in the summer when it is not required for apples and is not sufficient to run an apple cold store.⁷¹⁷

497. Defra has recognised the challenges faced by many communities and sectors, particularly in rural areas, in connecting to existing grid infrastructure to make these projects more viable.⁷¹⁸ The NFU called for more support for the expansion of grid infrastructure to boost investment in renewables.⁷¹⁹

707 Written evidence from John Hall ([HSI0028](#))

708 Written evidence from IAgRE ([HSI0048](#)) and John Hall ([HSI0028](#))

709 National Grid, ‘What is biogas?’: <https://www.nationalgrid.com/stories/energy-explained/what-is-biogas> [accessed 28 July 2023]

710 Written evidence from John Hall ([HSI0028](#))

711 [Q 76](#) (Matthew Appleby)

712 Written evidence from Alex Charrington ([HSI0067](#))

713 Written evidence from BIFGA ([HSI0016](#)) and British Berry Growers ([HSI0054](#))

714 Written evidence from John Hall ([HSI0028](#)); [Q 79](#) (Matthew Appleby)

715 Department for Energy Security & Net Zero, *Electricity Networks Commissioner's principle areas of recommendation* (4 August 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1175649/electricity-networks-commissioner-letter-to-desnz-secretary.pdf [accessed 8 September 2023]

716 [Q 79](#) (Matthew Appleby)

717 Written evidence from Alex Charrington ([HSI0067](#))

718 Written evidence from Defra ([HSI0087](#))

719 Written evidence from NFU ([HSI0029](#))

498. The primary concern is high capital costs. New Leaf Plants expressed frustration that while it has ambitions to install solar panels at its nursery, it does not meet funding requirements, which it said were either targeted at agriculture, smaller turnover businesses or businesses with fewer employees.⁷²⁰ We also heard that capital costs are a significant barrier to adoption. The Young People in Horticulture Association told us that more people would be inclined to switch to solar power if “it didn’t cost a kidney to buy and install the system”⁷²¹ The Farming Innovation Programme offers competition funding for projects including investment in solar panel systems.⁷²² The Government has committed to including solar on the roofs of barns through its new farming scheme grants, although detail on this is scarce.⁷²³
499. Incentives have been put forward as another way that this could be addressed. The Non-Domestic Renewable Heat Incentive (RHI) was raised in evidence several times, with some requesting the reintroduction of the scheme, which was closed in 2020. It paid businesses for each unit of heat produced from renewable sources. The Institution of Agricultural Engineers described it as a “boon” for the sector and told us that recent changes have meant the financial viability of CHP has been inconsistent.⁷²⁴ Mike Norris of Newey Group, told us the RHI encouraged investment in biomass boilers, suggesting a similar scheme backed by support would be important to support investment going forward.⁷²⁵ We also took evidence on approaches taken overseas, particularly in the Netherlands (see Box 5), which the Committee visited in June 2023 (see Appendix 6).

Box 5: The Dutch Energy Transition Pact

Horticulture is one of the Netherlands’ ‘top sectors’, a collection of nine sectors in which the Netherlands is an innovative world-leader.⁷²⁶

The Energy Transition Pact is a new 10-year plan to move away from natural gas extraction in the Groningen gas field by 2024. It is a significant challenge for greenhouses as it moves away from natural gas towards subsidising geothermal energy and recycling of residual heat. The new pact is a combination of carrot and stick approaches.

Carrot approaches include:

- Subsidies - £300m in subsidies are available for horticulture from the climate fund for heat networks.
- Infrastructure - modernisation of the greenhouse horticulture regions and better infrastructure to enable the use of greenhouses as an energy source themselves (Kas als Energiebron).
- A regional approach - embedding the regional approach in environmental visions, spatial, planning policy and licencing policy.

720 Written evidence from New Leaf Plants Ltd ([HSI0022](#))

721 Written evidence from British Berry Growers ([HSI0054](#)) and Young People in Horticulture Association ([HSI0068](#))

722 Written evidence from Defra ([HSI0087](#))

723 Defra and PM’s Office, *An update following the UK Farm to Fork summit held at 10 Downing Street on 16 May 2023* (16 May 2023): <https://www.gov.uk/government/publications/outcomes-from-the-uk-farm-to-fork-summit/an-update-following-the-uk-farm-to-fork-summit-held-at-10-downing-street-on-16-may-2023> [accessed 4 September 2023]

724 Written evidence from IAgRE ([HSI0048](#))

725 [Q 91](#) (Mike Norris)

726 See Topsector Horticulture & Starting Materials, ‘Home’: <https://topsectortu.nl/en/> [accessed 28 July 2023].

Stick approaches include:

- Increasing taxes - the Dutch government will abolish the low energy tax rate on natural gas for greenhouse horticulture by 2025. It will also abolish the zero tax rate for gas CHPs (combined heat and power). There are currently four levels for natural gas; the more you use the less you pay (which benefits growers but acts as a perverse incentive). There are also issues with growers buying and selling energy to the grid because it helps them to circumnavigate tax.
- An individual CO₂ sector system - this makes it easier to identify who is polluting rather than everyone paying the price.
- Compulsory energy saving measures.

In addition, the Dutch Government operates a series of financial and other support mechanisms for decarbonisation:

- Financial incentive schemes including MIA and VAMIL offer tax deductions for environmentally friendly investments to incentivise decarbonisation and the Green Label Scheme, which accrues tax breaks for investment into glasshouse sustainability, or to extend or replace less sustainable facilities.⁷²⁷
- The Renewable Energy Grant Scheme (SDE) and the Energy Investment Tax Credit scheme, and other sustainable energy investment grants (ISDE) offer incentives for investment in sustainable energy.⁷²⁸
- Multiannual Mission-Driven Innovative Programmes (MMIPs) are part of the Integral Knowledge and Innovation Agenda. MMIP 4 focusses on sustainable heating systems and includes accelerating the development of sustainable natural gas-free heating and cooling systems.
- The Kas also Energiebron (Greenhouse as a Source of Energy) programme is intended to reduce greenhouse horticulture CO₂ emissions by 2-3 per cent per year. This is being achieved through close public-private collaboration on research, knowledge-sharing, stimulating use of geothermal energy, and monitoring of results amongst others.

Source: Committee visit to the Netherlands (see Appendix 6)

500. Finally, George Hillier of Hillier Nurseries told us about the importance of sharing best practice. He referred to the HTA's programme of reference sites demonstrating work to reduce carbon emissions through solar panels, insulation, changing heating strategies, taking gas out or recycling materials, which are open for members to visit.⁷²⁹
501. The Government has promised to consider the needs of Controlled Environment Horticulture in the development of industrial energy policies to allow the sector to benefit from decarbonisation and better access to renewables, including via the consultation on Phase 3 of the Industrial Energy

727 Written evidence from EHG (HSI0042)

728 Government of the Netherlands, 'Central government encourages sustainable energy': <https://www.government.nl/topics/renewable-energy/central-government-encourages-sustainable-energy> [accessed 28 July 2023]

729 Q 95 (George Hillier)

Transformation Fund (IETF).⁷³⁰ The IETF supports the development and deployment of technologies that enable businesses with high energy use to transition to a low carbon future. Phase 3 will launch in early 2024.⁷³¹ It is also looking at utilising industrial and power sector waste heat as a thermal source of energy for glasshouses and looking at options for co-location to improve energy efficiencies.⁷³²

502. In September 2023, the Government said that later in 2023, farmers will be able to bid for a share of £15 million to install solar equipment, alongside a further £15 million for automation and robotics, which it says will “help them reduce fossil fuel use, improve their energy resilience and accelerate progress towards net zero”.⁷³³
503. **The sector recognises the need to transition to renewable energy. However, there remain barriers in making such a transition economically viable for horticultural businesses.**
504. *The Government should review available incentives for energy-intensive horticultural businesses to transition to renewable energy in order to build resilience to future energy shocks and make progress towards net zero.*

Environmental reporting

505. Measuring environmental impact is a complex and highly technical challenge for the sector. DEFRA’s Horticulture Business Survey 2022 found only 15 per cent of growers measure their greenhouse gas (GHG) footprint but 53 per cent of these were not confident that they can do so accurately. The majority of those who do not measure their GHG footprint said they do not know how.⁷³⁴ Matthew Appleby told us that the current approach was akin to the “wild west”, arguing “the bottom line is that growers and farmers do not really know how to measure it. They do not have the time, the resources or the expertise”.⁷³⁵
506. While there are over 65 GHG calculators available in the UK, there is currently no system for farm-level monitoring, reporting and verification of

730 Defra and PM’s Office, *An update following the UK Farm to Fork summit held at 10 Downing Street on 16 May 2023* (16 May 2023): <https://www.gov.uk/government/publications/outcomes-from-the-uk-farm-to-fork-summit/an-update-following-the-uk-farm-to-fork-summit-held-at-10-downing-street-on-16-may-2023> [accessed 4 September 2023]

731 Department for Energy Security & Net Zero and Department for Business, Energy & Industrial Strategy ‘Industrial Energy Transformation Fund’, (updated 26 June 2023): <https://www.gov.uk/government/collections/industrial-energy-transformation-fund> [accessed 6 September 2023]

732 Defra and PM’s Office, *An update following the UK Farm to Fork summit held at 10 Downing Street on 16 May 2023* (16 May 2023): <https://www.gov.uk/government/publications/outcomes-from-the-uk-farm-to-fork-summit/an-update-following-the-uk-farm-to-fork-summit-held-at-10-downing-street-on-16-may-2023> [accessed 4 September 2023]

733 Defra, Press Release: *Plan to boost British produce on Back British Farming Day* on 13 September 2023: <https://www.gov.uk/government/news/plan-to-boost-british-produce-on-back-british-farming-day> [accessed 26 October 2023]

734 Defra, *Horticulture Business Survey 2022* (updated 4 April 2022): <https://www.gov.uk/government/statistics/horticulture-business-survey/horticulture-business-survey-2022> [accessed 6 September 2023]

735 [Q 78](#) (Matthew Appleby)

emissions.⁷³⁶ In part this is due to the complexity of measuring the impact of farms. Professor Tim Benton, Research Director at Chatham House, told us that “it is extremely complicated to measure environmental impacts, both on farms and from a systemic perspective”.⁷³⁷

507. British Apples and Pears Ltd told us that “growers are working hard to measure and monitor carbon emissions and sequestration although current carbon measurement tools are a limiting factor and each one produces significantly different results”.⁷³⁸ The organisation recently secured additional funding through Innovate UK to evaluate the impact of the British Gala apple supply chain on the environment.⁷³⁹
508. We have heard that some crops are particularly difficult to measure using existing carbon calculators. For example, HL Hutchinson’s Dr Lacey told us that it was difficult to use existing tools to measure the impact of perennial crops such as apples.⁷⁴⁰ Ali Capper, a grower of apples, told us that “each carbon calculator tool I use gives me a different answer”.⁷⁴¹ We heard about several such tools (see Box 6), for example independent agricultural consultancy ADAS is launching HortZero, a new carbon accounting tool for the sector.⁷⁴²

736 Linking Environment and Farming, *Reducing your carbon footprint: Integrated approaches to reduce emissions and increase carbon sequestration* (2021): <https://s3-eu-west-1.amazonaws.com/leaf-website/Carbon-in-a-Nutshell.pdf> [accessed 15 September 2023]; HM Government, Scottish Government, Welsh Government and Northern Ireland Department of Agriculture, Environment and Rural Affairs: *Developing the UK Emissions Trading Scheme (UK ETS)* (17 June 2022): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1067125/developing-the-uk-ets-english.pdf [accessed 15 September 2023]

737 Q 70 (Prof Tim Benton)

738 Written evidence from British Apples and Pears Ltd (HSI0063)

739 See ‘Apples and pears looks to address net zero’, *HortWeek* (21 August 2023): <https://www.hortweek.com/apples-pears-looks-address-net-zero/fresh-produce/article/1834647> [accessed 26 October 2023]

740 Written evidence from Dr Tim Lacey (HSI0055)

741 Q 85 (Ali Capper)

742 ‘ADAS launch net zero calculator’, *HortWeek* (20 September 2023): <https://www.hortweek.com/adas-launch-net-zero-calculator/ornamentals/article/1837918> [accessed 26 October 2023]

Box 6: The LEAF marque standard

Linking Environment and Farming (LEAF) operates the LEAF marque standard, which utilises national and global metrics to recognise environmentally-friendly practices based on Integrated Farm Management. The standard is independently audited by a third-party auditor.

In 2021, LEAF stated that 45 per cent of UK fruit and vegetables are grown on LEAF Marque certified farms.⁷⁴³ Marks and Spencer told us that it requires all its British growers to be LEAF marque certified.⁷⁴⁴ Alex Charrington, a grower from Kent, told us that the Government was “late to the party” on environmental practices, having been with LEAF for over a decade.⁷⁴⁵

Clare Mike, Director of Business Development at LEAF, told us that a key challenge was getting farmers and growers on the journey towards reaching targets in the first place due to limitations linked to skills, resources and time. She told us that pressure to be LEAF certified is coming from consumers rather than the Government. Growers are not paid a premium for being LEAF certified, which Clare told us demonstrates that reward is not the main driver for growers.

She suggested that there should be more investment for getting farmers to start the journey to reaching targets as well as rewarding them when they meet them in order to ensure sustainable uptake of environmentally-friendly practices. She told us “it is all about investing in support as much as rewarding the outcomes”.

We heard that peer-to-peer learning is fundamental to getting growers on this journey and adopting incremental changes tailored to their farm. She said:

“Taking farmers on to a farm to see what they are doing with their wild flowers, integrated pest management and reservoirs is a far more effective way of learning and mobilising the change than our preaching what should be done on each and every farm.”

Other similar schemes include NSF Red Tractor and Planet Mark.

Source: QQ 76–82 (Clare Mike); LEAF, *About Leaf Marque*: <https://leaf.eco/leafmarque/about> [accessed 31 July 2023]

509. Lifecycle Carbon Analysis (LCA) is a method used to evaluate the environmental impact of a product through its whole lifecycle from extraction and processing to manufacturing and distribution, and disposal.⁷⁴⁶ We have heard that a lack of such a tool is hampering the sector’s efforts to carry out Carbon Footprinting (CF) exercises and establish baseline emissions data. The NFU told us that current CF tools are largely based around the livestock and arable sectors and do not translate well to the diverse nature of horticulture.⁷⁴⁷
510. Grower Ali Capper told us LCA would be hugely beneficial for measuring Scope 3 emissions, which present a challenge at present.⁷⁴⁸ Some growers use third party services to measure their Scope 3 emissions, which we have

743 LEAF, ‘Our story’: <https://leaf.eco/about-leaf/our-story> [accessed 31 July 2023]

744 Written evidence from Marks & Spencer (HSI0088)

745 Written evidence from Alex Charrington (HSI0067)

746 Science Direct, ‘Life Cycle Analysis’, *Journal of Environmental Management*, (2010): <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/life-cycle-analysis> [accessed 26 October]

747 Written evidence from NFU (HSI0029)

748 Q 85 (Ali Capper)

heard can be prohibitively expensive.⁷⁴⁹ Scopes are typically the basis for reporting emissions.

Figure 7: Scope 1, 2 and 3 emissions

Scope 1	Scope 2	Scope 3
<ul style="list-style-type: none"> • Direct GHG emissions • e.g. use of fuel in vehicles 	<ul style="list-style-type: none"> • Indirect emissions • e.g. electricity use 	<ul style="list-style-type: none"> • Emissions associated with the value chain • e.g. procurement, customer use

Source: Deloitte, ‘Scope 1, 2 and 3 emissions’: <https://www2.deloitte.com/uk/en/focus/climate-change/zero-in-on-scope-1-2-and-3-emissions.html> [accessed 23 October 2023]

511. Defra has recognised the problems with the “numerous tools” for farmers to assess their emissions. In March 2023, it said it would develop a harmonised methodology for emissions measurement on farms by 2024.⁷⁵⁰
512. We have heard concerns that any such approach should be in line with international standards.⁷⁵¹ In addition, we recognise sector concerns that any measurement should also take into consideration the ‘handprint’ left behind by ‘green’ activities.⁷⁵² For example, George Hillier told us that “the single best way to promote the positives of our sector is to have a recognised and government-backed methodology for calculating the carbon sequestration achieved so that we can see both the areas for improvement and the positive impact of our sector, while at the same time encouraging the next generation of gardeners through science-based fact”.⁷⁵³
513. We also recognise the opportunity for more to be done within ELMS to encourage action on environmental measurement. Ali Capper told us that at present “there is nothing in the ELMS standard to encourage carbon calculator action, and there should be”.⁷⁵⁴
514. **Growers want to support the transition to net zero and reduce their environmental impact, but they cannot make this transition without first understanding their own emissions footprint. Current approaches to measuring environmental impact are not joined up or sufficiently relevant to the horticulture sector.**
515. *The Government must do more to establish better Life Cycle Assessment data for the horticultural sector to support Carbon Footprinting exercises as part of an accelerated move towards a single standard for environmental measurement and reporting. It should consider how ELMS could encourage take-up of such approaches.*

749 [Q 95](#) (George Hillier)

750 Defra and Department for Energy Security & Net Zero, Press Release: *Greater support for farmers to calculate and reduce their emissions* on 30 March 2023: <https://www.gov.uk/government/news/greater-support-for-farmers-to-calculate-and-reduce-their-emissions> [accessed 23 October 2023]

751 [Q 95](#) (Boyd Douglas-Davies)

752 *Ibid.*

753 [Q 99](#) (George Hillier)

754 [Q 85](#) (Ali Capper)

The role of amateur horticulturalists

516. The UK has long been considered a “nation of gardeners”.⁷⁵⁵ Private residential gardens make up around 5 per cent of England’s total land area.⁷⁵⁶ The All Party Parliamentary Gardening and Horticulture Group estimates that there are 28 million gardeners in the UK.⁷⁵⁷ During the pandemic, gardening boomed; the HTA estimate that during the lockdown periods, 3 million people became new gardeners.⁷⁵⁸
517. The Government has committed to a target of halting the decline in species abundance by 2030 and at COP15 in December 2022 the Government joined the international commitment to protecting 30 per cent of global land and sea for nature by 2030: the Government has also committed to protecting 30 per cent of UK land and sea for nature by the same date.⁷⁵⁹ However, the value of gardens in meeting these targets is not widely recognised. At present vegetated and unvegetated gardens are ranked as low value habitat types within the Natural England Biodiversity Metric 4.0 tool, a habitat based approach used to assess an area’s value to wildlife.⁷⁶⁰
518. It is clear to us that amateur horticulturalists could play a significant role in delivering these targets in residential gardens. The RHS told us that there is “clear scientific evidence to show that the domestic garden and cultivated landscapes are of high value for UK biodiversity”.⁷⁶¹ TV gardener Alan Titchmarsh told us:
- “Domestic gardens, as well as well-planted parks, offer a unique opportunity to all forms of wildlife - be they birds seeking nesting sites in hedges, berried plants that provide winter food, or shrubs that offer shelter to mammals such as hedgehogs and shrews, the country of origin of such plants has little bearing on their usefulness.”⁷⁶²
519. We have heard a range of steps that gardeners can take at home to increase biodiversity and support the environment, including:
- Choosing the right flowers for the garden space.
 - Ensuring the integration of a range of plant species that provide pollen and nectar to pollinators and a range of habitats to wildlife.
 - Including native species of plants and trees to support native wildlife.
 - Adding a pond or water to encourage aquatic life and provide a water source for local wildlife.

755 Written evidence from the Colegrave Seabrook Foundation ([HSI0001](#)), David Yardley ([HSI0024](#)), Hiller Nurseries ([HSI0038](#)) and RHS ([HSI0050](#))

756 Written answer [UIN HL1149](#), Session 2022–2023

757 Written evidence from the All-Party Parliamentary Gardening and Horticulture Group ([HSI0041](#))

758 Written evidence from HTA ([HSI0053](#))

759 HM Government and Defra, *Environmental Improvement Plan 2023* (31 January 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1133967/environmental-improvement-plan-2023.pdf [accessed 6 September 2023]

760 Natural England, *The Biodiversity Metric 4.0: User guide - technical annex 2* (March 2023): <https://nepubprod.appspot.com/publication/6049804846366720> [accessed 8 September 2023]; written evidence from RHS ([HSI0050](#))

761 Written evidence from RHS ([HSI0050](#))

762 Written evidence from Alan Titchmarsh ([HSI0093](#))

- Encouraging grass to grow wild or longer to provide shelter for small mammals and habitat for insects.⁷⁶³
520. Concerns were raised in evidence that biodiversity is particularly threatened by the practice of paving over green spaces or using astroturf or artificial grass. Walworth Garden, a nursery and plant centre in South London wrote that “radical moves need to be made away from our over-reliance on concrete, impermeable panel-fencing, and plants which provide very little nectar or habitat for local species”.⁷⁶⁴ Johanna Barton, a small garden business owner, told us that the sector should stop promoting plastic grass, highlighting the negative effect on drainage and biodiversity. She suggested banning the sale of plastic turf and better education for consumers on its environmental costs.⁷⁶⁵
521. Patricia Wallace, Northern Ireland Manager at Social Farms and Gardens, told us about the importance of local seed banks. She told us that collecting seed that is best suited to the local area is important to boost local resilience in the natural environment.⁷⁶⁶ Oxford Botanical Gardens’ Dr Thorogood told us that seed banks were important in conserving plant diversity for the future.⁷⁶⁷
522. Alongside the value of native species, we also heard that there were knowledge gaps in relation to the value of cultivars and non-native species.⁷⁶⁸ While a focus on native species ‘rewilding’ is currently fashionable, Alan Titchmarsh argued that non-native species can enrich biodiversity, provide longer flowering seasons for pollinators, and extend the gene pool to provide for pest and disease resistance and adaptability to climate change. He warned a focus on native plants alone may deplete gardens and could result in “a diminution in biodiversity of catastrophic proportions”.⁷⁶⁹ Historic Houses suggested there was a place for both, arguing that “there should be greater recognition of the opportunities and need for the cultivated natural environment, as well as ‘nature recovery’ or rewilding schemes”.⁷⁷⁰ It is evident that more research is needed here.
523. As has been identified earlier in this chapter in relation to water efficiency and the peat-free transition, in order for private gardeners to take up genuinely sustainable practices, they must be supported to do so. The National Trust told us that retailers must do more to support environmentally-friendly gardening activity, highlighting the range of damaging pesticides on sale to amateur garden centres. It wrote that garden centres should adapt to the climate change challenge, for example by promoting better practices.⁷⁷¹ Peter Burks of Garden Centre Association told us that garden centres promote sustainable practices and the benefits of gardening within retail environments.⁷⁷²
524. The Government can also have a significant role in raising awareness through consumer and retail-focussed campaigns. The 10-year National Pollinator

763 Written evidence from Chester Zoo ([HSI0086](#))

764 Written evidence from Walworth Garden ([HSI0083](#))

765 Written evidence from Johanna Barton ([HSI0069](#))

766 [Q 194](#) (Patricia Wallace)

767 [Q 74](#) (Dr Chris Thorogood)

768 Written evidence from Jonathan Sheppard and Adam Frost ([HSI0043](#))

769 Written evidence from Alan Titchmarsh ([HSI0093](#))

770 Written evidence from Historic Houses ([HSI0046](#))

771 Written evidence from National Trust ([HSI0049](#))

772 Written evidence from Garden Centre Association ([HSI0077](#))

Strategy was published in 2014 and set out plans to improve the status of pollinating insect species in England. The National Pollinator Strategy Action Plan set out specific actions for the period 2021 to 2024. This includes plans to enhance awareness across a range of businesses, organisations and the public of the essential needs of pollinators. The primary vehicle for this activity is the Bees' Needs campaign.⁷⁷³

525. The Bees' Needs campaign promotes positive steps that people and communities can take to support pollinators throughout the year. This includes '5 Simple Actions' for everyone to take, citizen science initiatives such as the UK Pollinator Monitoring Scheme (PoMS), and publishing regular content on the website and through various media channels. It promised to work with growers and retailers to raise awareness of and maximise the use of alternatives to pesticides through pollinator-friendly plant labelling.⁷⁷⁴
526. Furthermore, consumers must be supported to take action on plastics and packaging waste. Plastic is typically used in the sector because it can tolerate weather and retains water, which some biodegradable options do not.⁷⁷⁵ Alternatives to plastics might rely on biodegradable materials such as natural polymers based on seaweed, plant-derived proteins, and lipids. These options may also add value through antimicrobial and antiviral agents.⁷⁷⁶ Other options include compostable pots made from cardboard, or woven pots made from coir, the possible negative consequences of which have already been explored. Boyd Douglas-Davies, formerly of British Garden Centres, told us that there was a need for more R&D into alternatives to plastic.⁷⁷⁷
527. Recycling plant pots remains a challenge although we recognise that some retailers are playing their part to rectify this. We heard that consumers could bring pots back to some garden centres for recycling, for example into garden furniture or decking.⁷⁷⁸ However, Matthew Appleby told us that some local councils were still falling behind on recycling plastic plant pots kerbside, which presents a confusing and disjointed picture for consumers.⁷⁷⁹
528. The Government has delayed the rollout of the Extended Producer Responsibility Scheme, which will ensure that packaging producers pay for the cost of recycling, until October 2025.⁷⁸⁰ We have heard that Defra's communication with the sector on the scheme has been lacking.⁷⁸¹ We also heard that the introduction of the scheme is an administrative burden with potential unknown costs, while the NFU told us that the lack of clarity on the policy had created uncertainty in the sector.⁷⁸² The delay in the rollout of the scheme may provide time for the Government to rectify these challenges.

773 Defra, *National Pollinator Strategy: Pollinator Action Plan, 2021 to 2024* (May 2022): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1077200/Pollinator_Action_Plan_2021_to_2024.pdf [accessed 6 September 2023]

774 *Ibid.*

775 Q 80 (Clark Mike)

776 Written evidence from School of Water, Energy and Environment, Cranfield University (HSI0018)

777 Q 96 (Boyd Douglas-Davies)

778 *Ibid.*

779 Q 80 (Matthew Appleby) and Q 96 (Boyd Douglas-Davies)

780 Defra, Press Release: *Update on packaging reforms to help drive down inflation* on 25 July 2023: <https://www.gov.uk/government/news/update-on-packaging-reforms-to-help-drive-down-inflation> [accessed 26 October 2023]

781 Written evidence from Evergreen Garden Care UK Ltd (HSI0066) and Young People in Horticulture Association (HSI0068)

782 Written evidence from HTA (HSI0053) and NFU (HSI0029)

529. **Private gardens and amateur horticulturalists are essential to addressing the climate crisis. However, in order to make effective choices, individuals must be supported to make decisions around plants, packaging and growing media that benefit the environment.**
530. *The Government should work with industry influencers such as the RHS to develop a simple messaging campaign to raise awareness amongst consumers about environmentally-friendly and climate-resilient growing in domestic settings. It should provide clear guidance on pollinator-friendly species.*
531. **Domestic gardens can be a haven for pollinators that are vital to biodiversity.**
532. *At the end of its term in 2024, the Government should review the effectiveness of its strategies to engage the public within the National Pollinator Strategy 2021–2024, including the reach of the ‘Bees Needs’ campaign and its work with growers to maximise the use of pollinator-friendly plant labelling. It must commit to publishing a revised strategy from 2024 onwards based on the learnings from such a review.*
533. **Plastic remains widely in use in the retail horticultural sector due to a lack of research into viable packaging alternatives, while patchy processes on recycling plastic pots is hampering the efforts of the sector to transition towards greater circularity. At the same time, low-maintenance trends such as turfing over green spaces with artificial grass provide no benefit to the environment and may have a negative impact on biodiversity in the long term.**
534. *The Government must ensure that local authorities have a consistent approach to permitting the kerbside collection of plastic garden waste for recycling. It should consult on banning the retail sale of artificial grass and plants for outdoor use.*

CHAPTER 5: “A RESEARCH SYSTEM THAT IS RESPONSIVE AND INTEGRATED”⁷⁸³

535. Research and development (R&D) is vital for the horticulture sector, as it seeks new ways to meet net zero targets and increase UK food security. It has become clear throughout this inquiry that the UK’s R&D landscape has grown much worse since 2003, when a Parliamentary Committee last undertook an inquiry into the sector. Core funding has been slashed, and what funding is available must be won through competitions, which can be difficult to access and navigate both for scientists and for businesses interested in investing in R&D. Funding competitions are not always open to horticultural projects, and when grants are given, they are often poorly structured and short-term. What is needed instead is a “research system that is responsive and integrated” working in lockstep with growers to meet the challenges of the sector.⁷⁸⁴

Research and development: funding and infrastructure

536. Historically, the UK has benefited from world-class research and development infrastructure and resources in horticulture, including multiple internationally significant research centres.⁷⁸⁵ This infrastructure is now “highly depleted”; sites at Kirton and Efford have closed and East Malling operates with half to a third of its 2003 staffing levels.⁷⁸⁶ The Institution of Agricultural Engineers wrote to us to say that the decline of these institutes “left a void that hasn’t really been filled”.⁷⁸⁷

537. There has also been an erosion of university higher education and associated research provision.⁷⁸⁸ Only the University of Reading is globally ranked for horticulture (Edurank 47th in 2022), and it no longer provides a BSc in the subject.⁷⁸⁹ The University of Lincoln’s Professor Pearson told us that “the last 20 years have seen a vector of decline in UK horticultural science” and that whilst it retains “elements of world leadership”, it can no longer be said, on the whole, to be “world class”. He called for a “comprehensive review” of the funding landscape and future direction of R&D.⁷⁹⁰

538. This situation exists in sharp contrast to models adopted elsewhere. During the Committee’s visit to the Netherlands, we heard about the triple helix. The triple helix model (see Figure 8) involves public-private cooperation between industry, academia and the Dutch government and applies across sectors. The Environmental Horticulture Group told us this model means that research is applied by industry without duplication and is aligned with government policy delivery, ensuring it is applicable in practice.⁷⁹¹ The Dutch government is now exploring integrating civil society into the model, upgrading it to a quadruple helix (see Appendix 6).⁷⁹²

783 Written evidence from FVA ([HSI0061](#))

784 *Ibid.*

785 Written evidence from Prof Simon Pearson ([HSI0060](#))

786 *Ibid.*

787 Written evidence from IAgRE ([HSI0048](#))

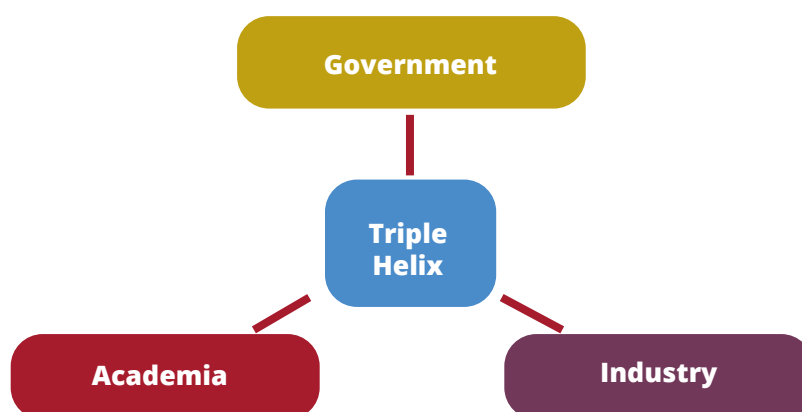
788 Written evidence from Prof Simon Pearson ([HSI0060](#))

789 *Ibid.*

790 *Ibid.*

791 Written evidence from the EHG ([HSI0042](#))

792 See ‘Triple helix or quadruple helix: which model of innovation to choose for empirical studies’, *Minerva*, vol. 60, (28 October 2021), pp 257–280: <https://link.springer.com/article/10.1007/s11024-021-09453-6> [accessed 26 October 2023]

Figure 8: The Triple Helix model

Source: Committee visit to the Netherlands (see Appendix 6)

539. Mark Spencer MP appeared to be sceptical of the ‘triple helix’ approach whilst acknowledging the need to ensure research can transition practically to on-farm application.⁷⁹³ Defra’s Tim Mordan said that the UK has “equally good, if not better” research institutions albeit in a more fragmented landscape.⁷⁹⁴
540. **Historically, the UK has benefited from world-class research and development infrastructure and resources in horticulture. Whilst there are elements in our research centres that produce world leading research, it can no longer, overall, be said to be world-class.**
541. *The Government must undertake a comprehensive review of the future direction of research and development in horticulture and its funding landscape. Public-private partnerships should be supported by Government in both policy and funding models to bind the fragmented landscape, emulating the Dutch ‘triple helix’ model.*

Core funding

542. In 2003, horticultural R&D was “funded by multiple sources”, including the Agriculture and Food Research Council, which was merged into the BBSRC in 1995, and Defra.⁷⁹⁵ Professor Pearson told us these funders provided “long term strategic and core funding for people and facilities, plus access to responsive mode funds”, and there is a case for the “re-establishment of Defra strategic funding, or a realignment of existing long term UKRI budgets, towards horticulture research”.⁷⁹⁶ The University of Warwick’s Professor Napier told us that the lack of longer-term strategic awards and the absence of “any core funded institute for horticulture” is “leading to a loss of R&I infrastructure”, a “loss of skilled and experienced scientists”, and a “shortage of opportunities for students to train ... to see horticulture in practice, a loss of career mentors, and a lack of opportunities for knowledge exchange”.⁷⁹⁷

793 Q 284 (Mark Spencer MP)

794 Q 284 (Tim Mordan)

795 Written evidence from Prof Simon Pearson (HSI0060)

796 *Ibid.*

797 Written evidence from Prof Richard Napier (HSI0012)

543. At Growing Kent and Medway, a partnership programme supported through UKRI's Strength in Places Fund, we heard about the positives of the funding approach, which offers ringfenced funding for the region and the sector (see Appendix 5). Across the sector more widely, the Committee heard that a lack of sustainable core funding was hampering R&D institutions as funding transitioned towards a competition-based approach. During the visit, NIAB, the project's leading partner, told us that they estimate it costs approximately £20,000 in staff time for each research proposal submitted. NIAB have a higher than average proposal success rate (50 per cent), which means that with 25 proposals submitted each year, the costs associated with unsuccessful proposal development can be as much as £250,000.
544. Ceres Agritech wrote to us about their experience of the "danger of short-term funding mechanisms".⁷⁹⁸ They told us that their programme's three-year funding cycle had ended, and that they were "extremely concerned that this momentum will be lost as there is no replacement mechanism to find new opportunities or to develop those we have supported".⁷⁹⁹
545. Mark Spencer MP told us that the UK has "some of the best research institutes anywhere in the world" but that they could work better together with Government to make sure that the same projects are not being funded at multiple institutions. He said the Government does not want to over-restrict researchers but does want to ensure that the research which is funded is good value for taxpayers' money.⁸⁰⁰ Tim Mordan of Defra acknowledged that "it is fair to say that horticulture has not always fared well in some of the competitions for R&D", however he added that Defra has "taken a close interest in making sure that all the sectors get a fair share of the cake".⁸⁰¹ He spoke in defence of putting research funding out for competitive tendering as a way of finding new, cutting edge research, citing new robotics research at the University of Lincoln as an example. He added that this process ensures the inclusion of SMEs, and also nodded to the existence of longer-term projects, such as the genetic improvement networks programme in partnership with industry.⁸⁰²
546. **The R&D landscape focuses too heavily on the use of short-term competition funding. This requires significant resources from scientists who must repeatedly reapply for funds and leaves little certainty when planning the kind of long-term strategic initiatives that are needed in this space.**
547. *We urge the Government to re-think its preoccupation with competitive short-term funding as the only solution and give urgent attention to the need for some R&D institutions to receive longer-term core funding for advances in edible and ornamental horticulture.*

UKRI

548. UK Research and Innovation (UKRI) is the UK's national funding agency for science and research. It operates across the whole of the UK, with a combined budget for 2022/23 to 2024/25 of £25.1 billion (around £8 billion

798 Written evidence from Ceres Agritech Partnership ([HSI0036](#))

799 *Ibid.*

800 [Q 283](#) (Mark Spencer MP)

801 [Q 283](#) (Tim Mordan)

802 [Q 285](#) (Tim Mordan)

per year).⁸⁰³ It brings together the seven Research Councils, Innovate UK, and Research England.

549. Dr Beniston of the Biotechnology and Biological Sciences Research Council (BBSRC) told us that UKRI recognises the long-standing and emergent research challenges facing the horticulture sector, particularly “the sustainable production of high-quality nutritious food”, “climate resilience and climate-smart breeding”, “pest and crop diseases” and “precision and controlled environmental horticulture and agriculture”.⁸⁰⁴ Dr Beniston told us that UKRI “effectively serves the horticulture sector” through its open research and innovation programmes, investing and partnering to develop strategic research and innovation programmes and through strategic engagement and collaboration.⁸⁰⁵
550. However, some stakeholders were concerned that UKRI does not recognise the specific challenges facing the ornamental sector. The RHS’ Professor Griffiths told us that of the recent UKRI farming innovation fund winners announced in August 2022, 99 per cent were for projects on farming or food, and only one supported ornamental horticulture.⁸⁰⁶ Of the 13 successful projects awarded for the tree production innovation fund in 2022, only one was the cultivar level, “which will be critical in relation to climate resilience”.⁸⁰⁷ In 2018, the RHS report *Securing the Future of the Garden and Horticulture Sector* reported an anecdotal estimation from the AHDB that investment in applied ornamental horticultural scientific research and development had decreased from £14.1 million per year in 1985 to £2.85 million in 2015.⁸⁰⁸ Professor Griffiths told us:

“The UK’s research and development funding streams and, indeed, policy goals ... focus predominantly on funding earth systems, wild biodiversity in the natural environment and forests, or agricultural and food crops ... that often leaves environmental horticultural a bit of an orphan.”⁸⁰⁹

551. Clare Matterson, Director General of the RHS, told us that the RHS has “difficulty in accessing funding pots because Defra money tends to be focused on the farming and agriculture side and not on the ornamental side”, whilst at UKRI, horticultural science is “an orphan science” which “probably” lies under the purview of the Biotechnology and Biological Sciences Research Council (BBSRC) but “is not in its strategy: “where we are successful, it is often through private individuals or private foundations”.⁸¹⁰ Funding comes from a variety of sources, for example RHS Wisley, which the RHS describes as the UK’s “first dedicated horticultural scientific centre of excellence”, received £4 million of funding from the National Lottery Heritage fund.⁸¹¹

803 UKRI, *2022–23 — 2024–25 budget allocations for UK Research and Innovation* (21 June 2022): https://www.ukri.org/wp-content/uploads/2022/05/UKRI-Budget-Allocations-2022-25_FINAL2.pdf [accessed 24 October 2023]

804 Q 159 (Dr Lee Beniston)

805 Q 160 (Dr Lee Beniston)

806 Q 162 (Prof Alistair Griffiths)

807 *Ibid.*

808 Q 162 (Prof Alistair Griffiths); All-Party Parliamentary Gardening and Horticulture Group, *Securing the future of the garden and horticulture sector* (October 2018): <https://www.rhs.org.uk/science/pdf/APPGHG-report-Securing-the-future-of-the-garden-an.pdf> [accessed 23 October 2023]

809 Q 162 (Prof Alistair Griffiths)

810 Q 24 (Clare Matterson)

811 RHS, ‘RHS Hilltop: The Home of Gardening Science’: <https://www.rhs.org.uk/gardens/wisley/garden-highlights/rhs-hilltop-the-home-of-gardening-science> [accessed 23 October 2023]

552. One area of perceived shortfall is in funding for the transition to peat-free (see Chapter 4). The RHS received a £1 million grant for the transition to peat-free, £125,000 of which came from Defra.⁸¹² Clare Matterson told us that “we are grateful for that £125,000, but it feels quite small in the grand scheme of things ... we seem to be getting the crumbs of the crumbs at the moment”.⁸¹³
553. Dr Beniston told us that BBSRC has committed and invested £68 million per year in the last two years on plant science, with £52 million of that investment related to crop science, and £17 million per year related directly to horticulture.⁸¹⁴
554. Most funded R&D horticulture projects relate to developments in technology, including the development of robotic systems, AI and data platforms, and new production systems, including vertical farms: but some stakeholders felt there was too much emphasis on expensive technological solutions.⁸¹⁵ The Soil Association’s Ben Raskin told us that “far too much of our R&D budget goes into high-tech robotic solutions ... and not enough into enabling farmers to do more on the ground”. He suggested that “sometimes on-farm and relatively low-tech innovation will enable more change than lots more money to develop an expensive robot that only a big grower can afford”.⁸¹⁶
555. In July 2023, the Government laid before Parliament the Third National Adaptation Programme and the Fourth Strategy for Climate Adaptation Reporting. As part of this strategy, Defra will jointly fund a £15 million UKRI/Defra programme to support the research and innovation needed to deliver adaptation action. This is part of UKRI’s “building a secure and resilient world” and “building a green future” strategic themes.⁸¹⁷ Mark Spencer MP told us that he was unsure if horticulture was within scope but he sincerely hoped so.⁸¹⁸
556. **We are concerned by reports that horticulture is an “orphan science”, left out of both Defra and UKRI funding pots, and about the effect that this exclusion could have on the sustainability and profitability of growers’ businesses, and on UK net zero targets. Most R&D in horticulture concerns technology development, but not enough emphasis is placed on on-farm and low-tech innovations, which would maximise impact through relatively low-cost interventions.**
557. *UKRI should undertake a review of BBSRC funding criteria to ensure that ornamental horticulture projects are given equal access to opportunities to apply for funding.*
558. *Future R&D strategies should consider the value of on-farm and low-tech innovations and be willing to give smaller grants to small scale projects.*

812 [Q 33](#) (Clare Matterson)

813 *Ibid.*

814 [Q 163](#) (Dr Beniston)

815 Written evidence from Prof Simon Pearson ([HSI0060](#))

816 [Q 224](#) (Ben Raskin)

817 Defra and Environment Agency, Press Release: *Government sets out adaptation programme to tackle climate impact* on 17 July 2023: <https://www.gov.uk/government/news/government-sets-out-adaptation-programme-to-tackle-climate-impact> [accessed 26 October 2023]

818 [Q 286](#) (Mark Spencer MP)

AHDB Horticulture

559. Until 2021, the horticultural sector paid a statutory levy totalling £8.1 million to the AHDB Horticulture and Potatoes levy, which supported £5.2 million of research and knowledge exchange activity.⁸¹⁹ In 2021, growers voted to bring this levy, and AHDB Horticulture to an end.⁸²⁰ We heard that the sector was split on the vote, with “soft fruit, top fruit and protected edibles” voting to retain the levy and other groups voting to abolish it as “they did not feel they were getting great value for money” and there was a “lack of agility at AHDB”.⁸²¹ The Fruit and Vegetable Alliance told us that for some years AHDB was “the only major applied research funder for the fresh produce sector”.⁸²² The University of Lincoln’s Professor Pearson described “the net loss of funding” as “of significant concern”, and Dr Tim Lacey of HL Hutchinson warned that the loss is “likely to be keenly felt in many areas”, and could lead to less cross-sector work, compounded by a fragmented research environment, particularly for ornamental horticulture.⁸²³
560. Some AHDB Horticulture activity, such as that associated with off level pesticide approvals, and the processing of Extension Authorization for Minor Uses and Emergency Applications, has been transferred to Horticulture Crop Protection Ltd, but likely at a lower levy rate and scope, and Professor Pearson estimates that most AHDB Horticulture activity has been lost.⁸²⁴ Horticulture Crop Protection Ltd activity is funded by UK growers through a system of voluntary subscription.⁸²⁵ Grower Ali Capper told us that “pest and disease research” had been taken “back-in-house” by “most crop associations” and that she was “really proud of what the sector has achieved with Horticulture Crop Protection Ltd”.⁸²⁶
561. However, it was felt by Professor Napier that the loss of AHDB Horticulture had left a “void for knowledge exchange in the sector”⁸²⁷ Ben Raskin told us that “what seems to be happening is that the big growers are effectively doing it themselves because they need to. That leaves out small and medium-scale growers with very little access to this stuff. There is a real risk that they will be left behind.”⁸²⁸
562. It has been suggested by some that the function of AHDB Horticulture is effectively being covered by Innovate UK, the Government’s innovation hub. However, Professor Pearson told us that the AHDB Horticulture fund effectively asked growers to fund the upfront costs and take on associated risks, whereas the Innovate UK model assumes that growers can buy and use proven, de-risked IP funded by third parties.⁸²⁹
- 563. The closure of AHDB Horticulture is a loss to the industry, both in terms of sheer research capital and as a venue for knowledge exchange.**

819 Written evidence from Prof Simon Pearson ([HSI0060](#))

820 AHDB, *Wind-down and transition of all AHDB Horticulture and AHDB Potatoes activity and levies for 2021/22 period*: https://archive.ahdb.org.uk/Horticulture_Potatoes_2021_22_levy_rates_and_wind_down [accessed 19 September 2023]

821 [Q 91](#) (Ali Capper)

822 Written evidence from FVA ([HSI0061](#))

823 Written evidence from Prof Simon Pearson ([HSI0060](#)) and Dr Tim Lacey ([HSI0055](#))

824 Written evidence from British Growers Association ([HSI0071](#)) and Prof Simon Pearson ([HSI0060](#))

825 Written evidence from British Growers ([HSI0071](#))

826 [Q 89](#) (Ali Capper)

827 Written evidence from Prof Richard Napier ([HSI0012](#))

828 [Q 224](#) (Ben Raskin)

829 Written evidence from Prof Simon Pearson ([HSI0060](#))

We cautiously welcome the tenure of Horticulture Crop Protection Ltd but suspect that it will struggle to replicate the full scale of what AHDB Horticulture was able to do.

564. *The Government should keep the impact of the closure of AHDB Horticulture under review and work with the sector to address resultant challenges.*

EU Fruit and Vegetables Aid Scheme

565. The EU Fruit and Vegetables Aid Scheme is an EU scheme designed to support growers with investment in priority areas including research and experimental production. From January to December 2021, 34 Producer Organisations received funding of over £40 million.⁸³⁰ In May 2023, the Government announced that it would replace the scheme for England from 2026, expanding the scheme to ensure that more growers, including those in controlled environment horticulture, can access investment.⁸³¹ It was suggested by some that the new scheme could be made better suited to the British market by:

- Better reflecting the nature of the consolidation of the UK industry rather than the European trend of large numbers of small-scale growers
- Redefining the recognition process and making it simpler
- Making funding more flexible and accessible for collaborative growers and individuals
- Providing a menu of options that reflect the variation in fresh produce crops.⁸³²

566. **We are pleased that the Government will replace the EU Fruit and Vegetables Aid Scheme, however the replacement for the scheme must be better tailored to the consolidated UK industry.**

567. *The Government must ensure the EU Fruit and Vegetable Aid Scheme's replacement is tailored to the UK horticultural landscape. It should make the process simpler for growers to be recognised, allow a more accessible funding programme for collaborative grower groups and individuals, and better provide for the variation in fresh produce crops.*

Business

568. Businesses who want to apply for Defra funds for R&D will apply to funding competitions administered by Innovate UK, which is the UK's national innovation agency. Innovate UK helps businesses develop the new products, services and processes they need to grow through innovation. Grower Ali Capper told us:

830 Rural Payments Agency, 'Fruit and Vegetables Aid Scheme: annual report for 2021' (9 November 2022): <https://www.gov.uk/government/publications/fruit-and-vegetable-aid-scheme-annual-report-for-2021> [accessed 23 October 2023]

831 Defra and Prime Minister's Office, *An update following the UK Farm to Fork summit held at 10 Downing Street on 16 May 2023* (16 May 2023): <https://www.gov.uk/government/publications/outcomes-from-the-uk-farm-to-fork-summit/an-update-following-the-uk-farm-to-fork-summit-held-at-10-downing-street-on-16-may-2023> [accessed 4 September 2023]

832 Written evidence from British Apples and Pears (HSI0063) and British Growers (HSI0071)

“It is fantastic that we have one place to go to for applied science funding, which is Innovate UK, but it could be improved. There is an onerous application system. The assessment is focused on impact. Horticulture is a small land area sector, with just 2% of land area and 20% of farm-gate value. To a scientific assessor receiving an application for horticultural innovation, the level of impact will not seem great if your measurement is how many hectares it will go across ... The Innovate UK System is designed for universities ... [it] needs to be redesigned and much more agile and appropriate”.⁸³³

569. Since 2014, horticultural projects have attracted £25.8 million (£2.9 million per year) of public support from Innovate UK, matched with £21.8 million (£2.4 million per year) of private sector co-investment across 82 projects.⁸³⁴ Grower David Knight wrote to us to say that government support was essential as growers cannot fund investment on their own. He suggested that as the implementation of research takes time and orchard growers need to see a long-term return, “short-term pressure is hampering and delaying technological development and progress”.⁸³⁵
570. Some stakeholders praised the current tax relief scheme, saying it was essential to give businesses the confidence to invest in new ideas.⁸³⁶ Ceres Agritech told us that there is a funding gap at seed funding level, and that addressing this gap would de-risk technology and spin-out companies prior to private sector investment:
- “Whilst the Defra/Innovate UK programmes are excellent, they require companies to have a 30% cash match. Raising this capital is extremely challenging and a serious barrier to the onward development of technology and growth of spin-out companies”.⁸³⁷
571. The BBSRC’s Dr Beniston praised the work of Innovate UK’s smart responsive grant funding scheme in encouraging access to small businesses: “there is a sliding scale of what businesses are asked to contribute to those projects, the smaller the business, the less it is asked to contribute.”⁸³⁸ He also mentioned the BBSRC’s LINK and industrial partnership award which allows businesses to “provide in-kind funding rather than cash contributions”.⁸³⁹ Professor Pearson told us that Innovate UK is not designed to prevent general market failures, or provide “a long-term and skilled strategic research infrastructure that expands underpinning basic knowledge or specific public needs”, it also has no “long-term and responsive funding”, “strategic research and innovation leadership” or a “key role working with Defra to inform strategic research priorities”.⁸⁴⁰ Furthermore, during the course of our inquiry, we heard support for international R&D partnerships; the primary vehicle for this being Horizon (see Box 7).

833 [Q 91](#) (Ali Cappers)

834 Written evidence from Prof Simon Pearson ([HSI0060](#))

835 Written evidence from David Knight ([HSI0005](#))

836 Written evidence from Wildflower Turf Ltd ([HSI0014](#)) and CIH ([HSI0026](#))

837 Written evidence from Ceres Agritech Partnership ([HSI0036](#))

838 [Q 163](#) (Dr Beniston)

839 *Ibid.*

840 Written evidence from Prof Simon Pearson ([HSI0060](#))

Box 7: Horizon Europe

Horizon is the EU's flagship funding programme for research and innovation. Around 14 per cent of funds from Horizon 2020 went to the UK. In September 2023, the Government announced the UK would join Horizon Europe as an associate member.

Speaking to the Committee on the day of the announcement, Mark Spencer MP told us that this move presented opportunities for the sector but it was too early to understand the specifics. He said that “the United Kingdom has a very good track record of being at the cutting edge of innovation for generations” and its priority was to maintain this.⁸⁴¹

We were pleased to hear this as witnesses supported the UK's association to the programme. Anabel Kindersley of Neal's Yard Remedies told the Committee that Horizon 2020 has already funded over 30 projects with an investment of over €160 million to promote IPM, whilst UK research in this area is “nascent”.⁸⁴² Professor Griffiths of the RHS told us that “for many leaders in the scientific community, Horizon Europe is critical ... There is a real challenge to replicate the full benefits of the world's largest existing collaborative research programme. It has readymade routes for talent, facilities equipment, access and collaboration with multiple countries”.⁸⁴³

Membership of Horizon Europe is critical to the scientific community, including in the horticulture sector. We are pleased that the UK has negotiated associate membership with the programme.

Source: House of Commons Library, EU funding in the UK, Research Briefing [CBP 7847](#), September 2020; PM Office and DSIT, Press Release: UK joins Horizon Europe under a new bespoke deal on 7 September 2023: <https://www.gov.uk/government/news/uk-joins-horizon-europe-under-a-new-bespoke-deal> [accessed 23 October 2023]

572. Defra also funds research and development in edible horticulture through its Farming Innovation Programme, a £270 million scheme launched in October 2021, and run through UKRI. Of the 47 projects that were live as of March 2023, 15 were related to edible horticulture and none were focused on ornamentals.⁸⁴⁴ Professor Napier told us that Defra R&D awards tend to be “very specific and short term”, despite a clear desire for what Ceres Agritech described as “larger ‘mission’ related projects reflecting many of the ‘grants’ horticulture challenges”; Professor Napier went on to say that most of Defra's schemes do not support underpinning, applied or strategic science.⁸⁴⁵ The Farming Innovation Programme currently supports programmes as shown in Table 5.

841 [Q 285](#) (Mark Spencer MP)

842 Written evidence from Neal's Yard Remedies ([HSI0081](#))

843 [Q 166](#) (Prof Griffiths)

844 Letter from Tessa Jones, Defra Director of Agri-Food Chain to Lord Redesdale, Chair of the House of Lords Horticultural Sector Committee, 23 March 2023: <https://committees.parliament.uk/publications/34685/documents/190862/default/>

845 Written evidence from Prof Richard Napier ([HSI0012](#)) and Ceres Agritech Partnership ([HSI0036](#))

Table 5: Farming Innovation Programme

You want to	Competition name	Project size	Length (up to)	Who can lead
Explore an idea and develop a team	Research starter	£28–56K	1 year	UK businesses
Check if an idea works in practice	Feasibility studies	£200–500K	2 years	UK businesses
Develop a new product or service	Small R&D partnerships	£1–3 million	3 years	UK businesses
	Large R&D partnerships	£3–5 million	4 years	UK businesses
Work on longer-term innovations	Farming Futures R&D	£200k–6 million	2 to 5 years	UK businesses

Source: Defra and UK Research and Innovation, *Farming innovation: find out about funding*: <https://farminginnovation.ukri.org/> [accessed 23 October 2023]

573. **Horticultural businesses require funding that matches the scale and length of their planning timeframe. Where possible, grants should match the length of growing cycles. Horticulture business cannot rely on short-term funding that leaves them at a cliff edge once the funding runs out. We recognise that the risk of investing in R&D can be significant and exacerbated by already squeezed grower returns.**
574. *The Government must work with UKRI to develop longer-term funding models for horticultural projects and introduce better models of follow-on funding to enable research to be translated into practice in line with horticultural growing cycles.*
575. *The Government must publish its response to the consultation on the review of R&D Tax Reliefs and outline clearly how this will impact businesses including those in the horticulture sector. The Government should ensure that tax incentives and match funding opportunities are maintained.*
576. *The Government must support a tailored campaign to promote the Farming Innovation Programme to ornamental growers via existing communications channels.*

CHAPTER 6: “IT IS WIDELY RECOGNISED THAT GARDENING IS GOOD FOR YOU”

577. Horticulture contributes to health and wellbeing in a range of ways, including alleviating mental and physical health difficulties through direct interaction with nature. Additional benefits include enhanced social interaction, physical health through outdoor activity and the home growing of produce, which can be associated with healthier diets. Across the board we have heard that the benefits of gardening and horticulture as a wider sector contribute to personal and community and to the health of the environment.⁸⁴⁶ This was picked up in evidence, as Tammy Woodhouse of Milbrook Garden Company told us: “it is widely recognised that gardening is good for you”.⁸⁴⁷

Community gardening

578. We have heard that community gardening and allotment spaces can support community wellbeing in a range of ways, from bolstering food security to providing space for social interaction and community cohesion. Sarah Squire, Chairman at Squire’s Garden Centres, told us that “gardening brings communities together like no other activity”.⁸⁴⁸

579. As a proportion of land use in England, outdoor recreation use accounts for 2.1 per cent. This includes a range of uses including playing fields and sports grounds, country parks and allotment gardens.⁸⁴⁹ It is estimated there are 330,000 allotment plots across the UK, most of which are council owned.⁸⁵⁰ Allotments and community gardens are used for growing fruits and vegetables as well as providing for ornamental plants. In 2022, 1 per cent of fresh fruit and vegetables entering the household came from free sources like gardens and allotments, down from 2 per cent the year before and 3 per cent in 2020.⁸⁵¹

580. Allotments can provide a range of benefits for individuals and communities. Dr Burn of the National Allotment Society, told us that allotments educate about food provenance, contribute to food security and sovereignty, improve mental and physical health, and support government goals and global challenges by acting as carbon sinks and providing for biodiversity. She told us “their value goes way beyond food production”.⁸⁵²

581. The Fruit and Vegetable Alliance pointed us to evidence that access to an allotment can reduce healthcare costs. A report by Brighton and Hove Allotment Federation showed a reduction in healthcare costs of £32,132, due to reduced stress, depression, loneliness and BMI as a result of access

846 Written evidence from Jim Carter ([HSI0092](#))

847 Written evidence from Tammy Woodhouse ([HSI0079](#))

848 Written evidence from Sarah Squire ([HSI0020](#))

849 DLUHC, *Land use statistics: England 2022* (27 October 2022): <https://www.gov.uk/government/statistics/land-use-in-england-2022/land-use-statistics-england-2022> [accessed 8 September 2023]; DLUHC, *Land Use in England and Land Use Change Statistics: Technical notes* (27 October 2022): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1113711/Land_Use_and_Land_Use_Change_-_Technical_Notes.pdf [accessed 8 September 2023]

850 ‘Losing the plot: fears huge rent rises will price many out of UK allotments’, *The Guardian* (21 April 2023): <https://www.theguardian.com/business/2023/apr/21/uk-allotments-rent-hikes-400-per-cent-councils> [accessed 23 October 2023]

851 Defra, *Family Food FYE 2022* (14 September 2023): <https://www.gov.uk/government/statistics/family-food-fye-2022/family-food-fye-2022> [accessed 18 September 2023]

852 [Q 173](#) (Dr Deborah Burn)

to allotments.⁸⁵³ Allotment holders may also show additional signs of better physical health. Research from Sheffield University has shown that allotment holders typically eat 6.5 portions of fruit and vegetables a day, which is 70 per cent higher than the national average in the UK.⁸⁵⁴

582. We recognise that urban growing projects may typically have a “strong community aim”. Steph Wetherell of Bristol Food Producers referenced projects utilising the skills of refugees from food producing backgrounds, the role of local volunteering and hyper-local food production. She said:

“It is all about connecting people with where their food comes from. In urban areas there is a huge disconnection: people go to a supermarket to buy their food, but they do not know what is in season or where it has come from. Urban horticulture enables people to understand, see, experience and help out with where their food is coming from.”⁸⁵⁵

583. Dr Edmondson from Sheffield University told us about the importance of allotments within urban horticulture as a source of growing food. Her research shows that land used for allotments in the UK has declined 60 per cent from its peak in the 1950s. Worryingly, an eight times greater loss has been seen in deprived communities, where people may not have access to their own green spaces to grow food.⁸⁵⁶

584. Dr Edmondson gave the example of Sheffield, where allotment land feeds approximately 3 per cent of the population on a five a day diet. Using the green space that exists across the city and could be used for growing food, around 122 per cent of the population could be fed a five a day diet. Given that much of this land is not available nor is it realistic to assume all the available land should be used for food production, Dr Edmondson told us that if just 10 per cent of the land was shifted into productivity, for example through allotments or community gardens, about 15 per cent of Sheffield’s population could be fed its five a day diet.⁸⁵⁷

585. Peri-urban areas on the outskirts of cities are also important contributors to this picture. The Fringe Farming Initiative told us that “active and productive areas around urban conurbations provide ecological benefits, including thriving biodiversity, while supporting jobs and training in new agroecological enterprises, as well as delivering healthy food to markets and building community wealth”.⁸⁵⁸

586. A lack of skills is a barrier to achieving the scaling up these ambitions. Dr Edmondson told us that “we do not have the skills and the knowledge at the moment to make the transition to food production in our cities and towns at a bigger scale”. She expressed a need to teach people how to grow and reconnect people with food production.⁸⁵⁹ To support skills development, we heard about the benefits of mentoring opportunities for incoming allotment holders run in conjunction with councils. Dr Burn suggested it would be

853 Written evidence from FVA ([HSI0061](#)); Brighton and Hove Allotment Federation, *An Outline Business Case for Allotments in Brighton & Hove* (December 2021): <https://democracy.brighton-hove.gov.uk/documents/s179098/Allotments%20APX.%20n%201.pdf> [accessed 19 September 2023]

854 [Q 173](#) (Dr Jill Edmondson)

855 [Q 173](#) (Steph Wetherell)

856 [Q 174](#) (Dr Deborah Burn)

857 [Q 176](#) (Dr Deborah Burn)

858 Written evidence from Fringe Farming Initiative *et al* ([HSI0027](#))

859 [Q 176](#) (Dr Jill Edmondson)

useful if greater resources were provided for this, particularly for people on allotment waiting lists.⁸⁶⁰ We heard that support is available for local groups to create community gardens through the RHS ‘It’s My Neighbourhood’ programme.⁸⁶¹

587. The Garden Centre Association’s Peter Burks told us that since the pandemic “demand for allotments and involvement in community gardens has never been greater”.⁸⁶² However, we have also heard concerns about long wait lists and the affordability of allotment sites at present due to rising rates, the increasing application of administration fees by councils, and the removal of concessions for certain groups. Dr Burn gave the example of St Helens Borough Council, which she said “charges £112.50 to rent the plot, £27.50 for water, a £100 administration fee to start a new tenancy, plus a refundable key deposit of £20, which is a £260 payment up front at the start of the tenancy”. The setting of allotment rents “at a rent that a tenant can reasonably expected to pay” is stipulated under the Allotments Act 1950, but other fees are not.⁸⁶³ Dr Burn told us that some councils were simply “picking and choosing” which councils to benchmark against, often in favour of councils charging higher local rents.⁸⁶⁴

588. We recognise the need to elevate community gardening and allotments to achieve greater recognition in the policy and planning process as part of efforts to encourage more people into the sector. Tayshan Hayden Smith of Grow2Know told us:

“There is a perception of community gardens as a patched-together space with a few sleepers and a sign that says “Allotment”. Looking at ways we can support those spaces and make them beautiful and amazing would be another access point for communities on the ground to go, “This is something I really want to be involved in”, rather than something that feels half-hearted or half-funded and resourced, as amazing as they are. The more people we can excite about horticulture and the more opportunities there are, the more people we will get into the industry.”⁸⁶⁵

589. One way that we heard young people are being excited about horticulture is through the illicit practice of guerrilla gardening (see Box 8).

860 [Q 189](#) (Dr Deborah Burn)

861 Written evidence from RHS ([HSI0050](#))

862 Written evidence from Garden Centre Association ([HSI0077](#))

863 [Q 174](#) (Dr Deborah Burn); Allotments Act 1950, [Chapter 31\(10\)](#)

864 [Q 174](#) (Dr Deborah Burn)

865 [Q 130](#) (Tayshan Hayden-Smith)

Box 8: Guerrilla gardening

Guerrilla gardening can be defined as gardening on land that gardeners do not have the legal rights to cultivate. Gardening on land without explicit permission is not condoned by the Committee, but we recognise the value of community-based gardening activism in delivering benefits for nature and encouraging new people into the sector. We heard that in some cases where it is difficult to determine who owns unused land, it is “better to seek forgiveness than permission”.⁸⁶⁶

Following the Grenfell tower tragedy, Tayshan Hayden-Smith became known as ‘the Grenfell Guerrilla Gardener’ having created the Grenfell Garden of Peace as a community-based project using plants from local nurseries. Tayshan told us that “it is about mischief and playfulness” in gardening and horticulture.⁸⁶⁷

Guerrilla gardening appears to appeal to a younger demographic. Lee Connelly, the Skinny Jean Gardener, told us that guerrilla gardening “is about rebranding how you put it out to children and young people in their language”.⁸⁶⁸ The Colegrave Seabrook Foundation told us that if young people are not permitted to grow at school or have the capacity to do so at home, “an element of ‘guerrilla gardening’ may need to be encouraged” to inspire care for nature.⁸⁶⁹

Source: ‘What is community gardening?’, *Gardens Illustrated* (22 July 2021): <https://www.gardensillustrated.com/feature/what-is-guerrilla-gardening/> [accessed 23 October 2023]; ‘Tayshan Hayden-Smith: From ‘English Neymar’ to Grenfell gardener’, *BBC Sport* (16 April 2021): <https://www.bbc.co.uk/sport/56720750> [accessed 23 October 2023]

590. Patricia Wallace of Social Farms and Gardens argued for the transfer of public land to community management to meet the demand from local communities to engage in horticulture. She told us that “authorities and public landowners need to catch up with them to ask how we can capture and harness this enthusiasm”.⁸⁷⁰ She pointed to a report conducted by Social Farms and Gardens in tandem with 11 local councils to set a benchmark standard for a third of an acre for every 1,000 households set aside for community growing.⁸⁷¹
591. Allotments may also be threatened by development pressures on land use.⁸⁷² Patricia Wallace told us that “the little humble community garden or allotment, which provides so many benefits for communities and their environment, needs protection”.⁸⁷³ At present only statutory allotment sites are protected by law.⁸⁷⁴ Steph Wetherell argued that high-quality land for food growing in urban environments should be protected and supported by adequate local authority funding to support the management of the land.⁸⁷⁵
592. Councils are not required to produce an allotment strategy at present. This results in the lack of a level playing field and patchy allotment provision

866 [Q 197](#) (Patricia Wallace)

867 [Q 130](#) (Tayshan Hayden-Smith)

868 [Q 130](#) (Lee Connelly)

869 Written evidence from the Colegrave Seabrook Foundation ([HSI0001](#))

870 [QQ 197, 201](#) (Patricia Wallace)

871 [Q 201](#) (Patricia Wallace)

872 [Q 174](#) (Dr Deborah Burn)

873 [Q 199](#) (Patricia Wallace)

874 [Q 182](#) (Dr Deborah Burn)

875 [Q 181](#) (Steph Wetherell)

across the UK.⁸⁷⁶ Dr Burn argued for such provision to be mandatory and accompanied by an identification of suitable land within such a strategy.⁸⁷⁷

593. This is important as individuals can only get involved in community growing if they have fair access to it. Not all green spaces are equally accessible and we have heard that there is a correlation between green-space deprivation and ethnicity and income.⁸⁷⁸ Therefore, urban horticulture could perhaps best benefit communities if prioritised in spaces where there are fewer gardens and people do not have access to the same amount of green space.⁸⁷⁹
594. The Government has set out plans to support more equitable access to green space, through its commitment to ensure accessibility to green space for all people within 15 minutes from home.⁸⁸⁰
595. The All-Party Parliamentary Gardening and Horticulture Group argued that planning guidelines should prescribe a minimum ratio of new housing to gardens, balconies and community green space (including criteria such as allotments, play areas and recreation), per acre in new build areas, and incorporation of more community green spaces within the urban planning process.⁸⁸¹
596. It is clear to us that more could be done to value community garden and allotment spaces more holistically, as more than simply its food production value, in order to recognise and protect its space in urban and peri-urban planning.⁸⁸² As part of the planning process, we heard that such spaces should be considered as part of a network of horticultural spaces that are vital for ornamental and edible productivity, biodiversity, and community cohesion and wellness.⁸⁸³
597. **Allotments and community gardens provide a crucial space for urban populations to grow their own food and provide habitats for nature and biodiversity. However, provision of allotments is erratic across the country due to inconsistent local planning policy.**
598. *The Government should mandate that all local authorities are required to devise an allotment strategy as part of local plans, and to identify suitable land and training/mentoring partners as part of this strategy.*
599. **Community growing can enable people to come together to nurture unloved and underappreciated spaces.**
600. *The National Planning Policy Framework should be updated to fully recognise and reflect the role of community growing in local food security and biodiversity, as well as for its socio-economic benefits.*

876 [Q 181](#) (Dr Deborah Burn)

877 [Q 190](#) (Dr Deborah Burn)

878 [Q 194](#) (Wayne Grills)

879 [Q 193](#) (Patricia Wallace)

880 HM Government and Defra, *Environmental Improvement Plan 2023* (31 January 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1133967/environmental-improvement-plan-2023.pdf [accessed 6 September 2023]

881 Written evidence from the All-Party Parliamentary Gardening and Horticulture Group ([HSI0041](#))

882 [Q 184](#) (Dr Jill Edmondson)

883 [Q 181](#) (Dr Jill Edmondson)

Healthy diets

601. In 2022, the Government Food Strategy committed to delivering “healthier, more sustainable and affordable diets for all”.⁸⁸⁴ While we have not explored the role of horticulture in promoting healthy diets at length, we do recognise that the horticultural sector has the capacity to support the delivery of national public health objectives by producing fruits and vegetables.
602. Around 18,000 premature deaths every year are linked to diets low in vegetables in the UK.⁸⁸⁵ The 2021 National Food Strategy, an Independent Review conducted by Henry Dimbleby, suggested fruit and vegetable consumption should be increased by 30 per cent by 2032 compared to 2019 levels to meet health, climate and nature commitments.⁸⁸⁶ Achieving this increase will require significant cross-departmental collaboration between Defra and DHSC. In its 2022 Levelling Up White Paper, the Government committed to Henry Dimbleby’s suggestion to pilot a three-year Community Eatwell programme. This will include prescribing fruits and vegetables to support those suffering or at risk of diet-related illness or food insecurity.⁸⁸⁷
603. Sustainable Food Places told us that “there needs to be a cross-departmental approach that provides food systems funding to link local supply chains, healthy diets, and horticulture, rather than treating food systems and horticulture as separate”.⁸⁸⁸ This was a common theme in evidence. Chatham House’s Professor Tim Benton linked food security to “the provision of healthy diets for all people at all times in an affordable way”. He argued that ‘nutritional security’ is a critical part of the resilience of the food system and as part of national security more widely. He suggested valuing nutritional security as a public good and incentivising farmers to grow more fruit and vegetables.⁸⁸⁹
604. Incentivising farmers in this way is vital to fill the gap in current domestic production. The British Growers Association’s Jack Ward told us that “if every person in the UK wanted to eat 5-a-day tomorrow, they couldn’t because there would not be enough fruit and veg available”.⁸⁹⁰
605. We have heard particular concerns relating to the fruit and vegetable consumption of children and young people. Dan Parker, Chief Executive at Veg Power, a campaign to increase vegetable consumption, pointed to the latest National Diet and Nutrition Survey, which found that nearly a third (29 per cent) of children aged five to 10, and 23 per cent of children aged 11 to 16, eat less than one portion of veg a day.⁸⁹¹ The British Growers Association

884 Defra, *Government food strategy* (13 June 2022): <https://www.gov.uk/government/publications/government-food-strategy/government-food-strategy> [accessed 19 September 2023]

885 The Food Foundation, *Peas Please: Veg Facts 2021* (September 2021): <https://foodfoundation.org.uk/sites/default/files/2021-09/Peas-Please-Veg-Facts-2021.pdf>; Written evidence from FVA (HSI0061)

886 HM Government, *National Food Strategy* (July 2021) Figure 16.1: <https://www.nationalfoodstrategy.org/the-report/> [accessed 8 September 2023]

887 DLUHC, *Levelling Up the United Kingdom*, CP 604 (2 February 2022): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1052706/Levelling_Up_WP_HRES.pdf [accessed 23 October 2023]

888 Written evidence from Sustainable Food Places (HSI0047)

889 *QQ 69–75* (Prof Tim Benton)

890 Written evidence from British Growers (HSI0071)

891 Written evidence from Veg Power (HSI0007) and the Food Foundation (HSI0035). See also The Food Foundation, *Peas Please: Veg Facts 2021* (September 2021) Figure 4: <https://foodfoundation.org.uk/sites/default/files/2021-09/Peas-Please-Veg-Facts-2021.pdf> [accessed 18 September 2023]

told us that campaigns such as Veg Power and Eat Them to Defeat Them are valuable, however they need scaling up to meet the challenge.⁸⁹²

606. Another avenue for supporting greater consumption amongst young people is through the education system, which has been explored in more detail in Chapter 3. We have heard that engaging young people in horticulture and growing at school may improve their engagement with the environment but also positively improve healthy food consumption habits.⁸⁹³ Lee Connelly, the Skinny Jean Gardener, told us that “young people take more responsibility for their health and diet by growing their own food”.⁸⁹⁴ The Government has committed up to £5 million to launch a ‘school cooking revolution’ as part of its Levelling Up agenda, details of which are yet to be published.⁸⁹⁵
607. The Food Foundation recommended that the School Food Standards should be updated to require two portions of vegetables to be served in each main meal. This has already been adopted in Scotland.⁸⁹⁶ We also heard support for improving and expanding the Healthy Start Scheme, which provides weekly payments to low-income households with pre-school aged children to be spent on healthy food including fruit and vegetables.⁸⁹⁷ Equally, we heard arguments in favour of a re-specification of the School Fruit and Veg Scheme, as recommended by Henry Dimbleby, to double the funding to £80.8 million per year and allowing schools the freedom to procure higher quality produce from local suppliers by decentralising funding.⁸⁹⁸
608. Defra’s closed consultation on possible changes to public sector food and catering policy proposed mandatory standards for food procurement including increasing fruit and vegetable consumption. It also set out objectives to promote local, healthier food and catering and open supply chains to more SMEs to encourage innovation. The Government will respond in 2023.⁸⁹⁹ We heard support for these ambitions in tandem with a robust enforcement regime and for greater support for horticulture’s role in public procurement more broadly to boost local sourcing and healthy diets.⁹⁰⁰
609. In August 2023, the Government announced a new agreement for procuring food and drink in a bid to drive up standards available to the public sector including schoolchildren and hospital patients. The plans include the creation of a single online portal to simplify the route to markets, which

892 Written evidence from British Growers (HSI0071)

893 Written evidence from RGB Kew (HSI0090) and the Soil Association (HSI0040)

894 Q 127 (Lee Connelly)

895 DLUHC, *Levelling Up the United Kingdom*, CP 604 (2 February 2022): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1052706/Levelling_Up_WP_HRES.pdf [accessed 23 October 2023]

896 Written evidence from the Food Foundation (HSI0035)

897 *Ibid.*

898 Written evidence from the Soil Association (HSI0040); HM Government, *National Food Strategy* (July 2021): <https://www.nationalfoodstrategy.org/the-report/> [accessed 8 September 2023]

899 Defra, *Public sector food and catering policy for England: The Government Buying Standards for Food and Catering Services (GBSF)* (June 2022): https://consult.defra.gov.uk/public-sector-food-procurement/food-and-catering-consultation/supporting_documents/Proposed%20public%20sector%20food%20and%20catering%20policy%20for%20England%201.pdf [accessed 8 September 2023]; Defra, *Public sector food and catering policy* (updated 27 November 2022): <https://www.gov.uk/government/consultations/public-sector-food-and-catering-policy> [accessed 8 September 2023]

900 Written evidence from the Food Foundation (HSI0035), Rosalie Maunder (HSI0006), Intelligent Growth Solutions Ltd (HSI0059), FVA (HSI0061) and Teresa Wickham (HSI0065)

the Government says will provide better access to locally sourced, seasonal produce from Spring 2024.⁹⁰¹

610. **The horticulture sector has a fundamental role to play in establishing a secure supply of healthy fruits and vegetables for the UK market. In the context of rising obesity, pressures on the NHS and a greater shift towards plant-based diets as part of the solution to tackling climate change, growers can play a vital role in supporting the nation’s health whilst also boosting the sector.**
611. *The Government should recognise the role the domestic horticultural sector can play in supporting health, wellbeing and climate change agendas. It should recognise nutritional security as a public good and properly incentivise horticultural growers to deliver against its public health ambitions.*
612. **Public procurement has an opportunity to provide a strong market for UK produce and to increase the provision of sustainably produced, healthy fruits and vegetables to public sector organisations.**
613. *The Government must urgently publish its response to the consultation on public sector food and catering policy for England. It should re-specify the School Fruit and Vegetable Scheme to allow schools the freedom to procure healthy produce from local suppliers.*
614. **The health system must respond dynamically to health challenges and fruit and vegetable prescriptions are a simple and potentially effective means of doing this.**
615. *The Government must publish its plans for delivering the Community Eatwell pilot and commit to publishing the findings of the scheme.*

Nature-based solutions to ill health

616. Nature-based solutions to ill health involve the use of nature to support the treatment of mental and physical health problems. They are known by a variety of different names, including ‘green care’, ‘social and therapeutic horticulture’, ‘nature-based interventions’ or ‘ecotherapy’.⁹⁰²
617. We have heard about various models for delivering such programmes. For example, the Defence Gardens Scheme provides a 10-week programme of small group therapy for veterans, in which a “sense of safety, security and actions, interactions and comradeship combine to create naturally occurring safe places for genuine peer support and self-growth take root”.⁹⁰³
618. Thrive’s Kathryn Rossiter told us about social and therapeutic horticulture (STH), the use of plants, gardens and gardening to improve health and wellbeing. She told us the benefits of STH are holistic, combining physical, mental and social benefits whilst working to care for and nurture living

901 Cabinet Office, Crown Commercial Service and Defra, Press Release: *School children and hospital patients set for higher quality food under new government plans* on 1 August 2023: <https://www.gov.uk/government/news/school-children-and-hospital-patients-set-for-higher-quality-food-under-new-government-plans> [accessed 26 October 2023]

902 Natural England, *A review of nature-based interventions for mental health care* (9 February 2016): <https://publications.naturalengland.org.uk/publication/4513819616346112> [accessed 8 September 2023]

903 Written evidence from Colonel Sally Coulthard ([HSI0015](#))

things in a horticultural setting.⁹⁰⁴ These benefits are increasingly being recognised.

The relationship between horticulture and health

619. Evidence of the benefits of gardening and horticulture for improving mental health is growing, however quantifying and defining the benefits of green spaces on health and wellbeing is challenging due to the range of factors that can affect outcomes.⁹⁰⁵
620. There is a clear view within the sector that horticulture is beneficial for mental health. BALI's Wayne Grills told us that "there is a direct correlation between green spaces and reducing stress, anxiety and depression".⁹⁰⁶ The Soil Association referred to studies that show that horticulture can support mental health, not only through being in green spaces but also through feelings of achievement and being part of a community.⁹⁰⁷
621. An RHS survey in December 2022 found that 73 per cent of respondents stated that gardening has a positive impact on mental health, 74 per cent on physical health and 44 per cent on social wellbeing.⁹⁰⁸ These factors are connected; the RHS told us:
- "Gardens and gardening have been strongly associated with increased psychological wellbeing, lowered risk of mental illness, improved physiological stress regulation, a stronger sense of community and belonging, reductions in self-harming, higher self-esteem and pride, and enhanced human microbiomes, potentially reducing the risk of immune-mediated diseases".⁹⁰⁹
622. Positive outcomes for physical health can also result from spending time outdoors in horticultural settings. The RHS told us that exposure to sunlight leads to higher vitamin D intake, which strengthens the immune system. Furthermore, the consumption of horticultural produce itself has a public health benefit. British Berry Growers told us about the health benefits of berries including properties that address oxidative stress and inflammation.⁹¹⁰
623. The University of Manchester's Dr Mell highlighted the wider value of green infrastructure in urban settings to health and wellbeing, arguing that access to nature and green infrastructure are a key component of healthy lifestyles. For example, he noted the value of physical activity through recreational activity in green spaces, the removal of air pollutants by green infrastructure, and the reduction in public health issues as a result of climate change mitigation by green infrastructure projects.⁹¹¹
624. We welcome the fact that UKRI has designated 'securing better health, ageing and wellbeing' as one of its major strategic themes, backed with a

904 [QQ 134–137](#) (Kathryn Rossiter)

905 Parliamentary Office of Science and Technology, *Green space and health*, [POSTnote 538](#), October 2016

906 [Q 192](#) (Wayne Grills)

907 Written evidence from the Soil Association ([HSI0040](#))

908 Written evidence from the All-Party Parliamentary Gardening and Horticulture Group ([HSI0041](#)); [Q 159](#) (Prof Alistair Griffiths)

909 Written evidence from RHS ([HSI0050](#))

910 Written evidence from British Berry Growers ([HSI0054](#))

911 Written evidence from Dr Ian Mell ([HSI0091](#))

budget of £75 million from 2023 to 2029.⁹¹² More research should be done into this area to better establish the links between horticulture and health to support the promotion of methods of ‘green care’ that could support individuals whilst relieving pressure on the NHS.

Social prescribing

625. Social prescribing is “a way of actively connecting people to activities, information and resources to help address an unmet health and wellbeing need or risk”. The National Academy for Social Prescribing (NASP) told us that it is “a key mechanism through which individuals can access the health benefits of horticulture”, for example by supporting people to engage in nature-based interventions and activities. This may take place through gardening and growing of plants and/or food, and nature and conservation management activities.⁹¹³
626. It can be an alternative to ‘traditional’ therapies and medications, and sometimes reduced this need.⁹¹⁴ OxCAN told us that “medication is not always the most appropriate answer”, and suggested that social prescribing can encourage social interactions, meaningful work, the pursuit of hobbies and learning new skills.⁹¹⁵
627. Evidence shows that social prescribing can have a positive impact on a wide range of physical and mental wellbeing outcomes. These include lower levels of cardiovascular and respiratory problems, slower cognitive decline, and reduced risk of diabetes and obesity. NASP also recognises that as a result, interactions with nature could reduce pressure on the health care system.⁹¹⁶
628. Social prescribing is largely accessed through GP practices who connect patients with a link worker, although they may be accessed directly. The recent NHS Long Term Workforce Plan commits to increasing the number of link workers to 9,000 by 2036/37 from the current 3,000.⁹¹⁷ Annabelle Padwick, Founder of Life at No. 27, told us that the focus on providing funding for the creation of link worker roles was misplaced, and should be focussed on delivery providers.⁹¹⁸
629. Delivery providers at present include voluntary organisations, community groups and charities.⁹¹⁹ The National Trust said it can support social prescribing through opportunities to volunteer and use the parks and natural spaces it cares for, while Historic Houses told us that it had been involved

912 UKRI, ‘Securing better health, ageing and wellbeing’, (updated 9 March 2023): <https://www.ukri.org/what-we-offer/browse-our-areas-of-investment-and-support/securing-better-health-ageing-and-well-being/> [accessed 18 September 2023]

913 Supplementary written evidence from the National Academy of Social Prescribing (HSI0096)

914 NASP, *What is social prescribing?*: <https://socialprescribingacademy.org.uk/what-is-social-prescribing/> [accessed 19 September 2023]; NASP, *Supporting you and your loved ones*: <https://socialprescribingacademy.org.uk/how-we-can-support-you/supporting-you/> [accessed 19 September 2023]

915 Written evidence from OxCAN (HSI0056)

916 Written evidence from the National Academy of Social Prescribing (HSI0096)

917 NHS, *NHS Long Term Workforce Plan* (30 June 2023): <https://www.england.nhs.uk/wp-content/uploads/2023/06/nhs-long-term-workforce-plan-v1.2.pdf> [accessed 18 September 2023]

918 Q 212 (Annabelle Padwick)

919 NASP, *What is social prescribing?*: <https://socialprescribingacademy.org.uk/what-is-social-prescribing/> [accessed 19 September 2023]; NASP, *Supporting you and your loved ones*: <https://socialprescribingacademy.org.uk/how-we-can-support-you/supporting-you/> [accessed 19 September 2023]

in such social prescribing initiatives, and considered them successful.⁹²⁰ However, we heard that social prescribing cannot be reliant on the voluntary sector alone.⁹²¹ Dave Solly, National Lead for Natural Environment at the NASP, suggested the need for a more sustainable resourcing model that supports providers to deliver activities on the ground. At present, this funding is not provided along with referrals.⁹²²

630. We heard that more could be done to ensure that these providers are properly trained to avoid unintended consequences.⁹²³ Kathryn Rossiter told us there was a need for the Government to recognise properly the STH profession and support the development of clear career pathways with accredited standards. Thrive is currently developing an association to formally accredit STH practitioners.⁹²⁴ Annabelle Padwick expressed concerns around safeguarding, suggesting that not all providers of services are trained in handling vulnerable people dealing with complex health issues. She compared the sector to the pharmaceutical industry to highlight the lack of regulatory oversight for social prescribing. She said that it was paramount to get social prescribing right and ensure its sustainable development “because we are playing with people’s lives”.⁹²⁵
631. Sustainable provision of social prescribing was recognised as a challenge by the NASP, which called for a robust evidence base and greater recognition of the clinical and cost-effectiveness of social prescribing to prevent and treat major conditions amongst local and national level health commissioners.⁹²⁶ Others were optimistic that the practice will become more common as its benefits become more well known.⁹²⁷
632. The Government’s ‘Preventing and tackling mental ill health through green social prescribing’ programme was established in October 2020. It included seven ‘test and learn’ pilot sites across England. The pilot concluded at the end of March 2023 and, having been considered successful, it is now in the process of being accepted as part of the embedded delivery of green social prescribing.⁹²⁸ The Environmental Improvement Plan set out that it will scale up green social prescribing across the healthcare system.⁹²⁹
633. As its adoption grows, we believe that more research is needed into access to social prescribing amongst different population groups given current inequality in access across geography, age, race, and ability.⁹³⁰

920 Written evidence from National Trust ([HSI0049](#)) and Historic Houses ([HSI0046](#))

921 Written evidence from the All-Party Parliamentary Gardening and Horticulture Group ([HSI0041](#))

922 [QQ 212](#) and [213](#) (Dave Solly)

923 Written evidence from Jonathan Sheppard and Adam Frost ([HSI0043](#))

924 [Q 138](#) (Kathryn Rossiter)

925 [QQ 214–217](#) (Annabelle Padwick)

926 Supplementary written evidence from NASP ([HSI0096](#))

927 Written evidence from OxCAN ([HSI0056](#))

928 Letter from Tessa Jones, Defra Director of Agri-Food Chain to Lord Redesdale, Chair of the House of Lords Horticultural Sector Committee, 23 March 2023: <https://committees.parliament.uk/publications/34685/documents/190862/default/>

929 HM Government and Defra, *Environmental Improvement Plan 2023* (31 January 2023): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1133967/environmental-improvement-plan-2023.pdf [accessed 6 September 2023]

930 Supplementary written evidence from NASP ([HSI0096](#))

Health of horticultural practitioners

634. We recognise that amongst the discussion of the benefits of horticulture for public health, practitioners in the sector recognise a distinction between these benefits and the health of those working in horticulture for a living. Garden designers Jonathan Sheppard and Adam Frost told us:
- “Working in certain roles within horticulture can be hard work, outside in all weathers, with similar stresses to all jobs, dealing with plants that can live or indeed die. This is very different to gardening as a pastime, being out in nice weather and enjoying green spaces, purely for relaxation and contemplation.”⁹³¹
635. Dr Pitt and Dr Medland from the universities of Cardiff and Bristol explained that there are a range of physical problems that can result from a career in the commercial horticultural sector. These risks include musculoskeletal problems such as back and knee pain due to time spent bending to the height of crops as well as possible health impacts of exposure to pesticides and other inputs used in intensive growing.⁹³²
636. Mental health was a significant concern. The Young People in Horticulture Association told us that its respondents recognised the loneliness associated with horticultural roles, as well as the physicality of the roles and low pay.⁹³³ We also recognise that recent industry pressures including labour shortages and rising production costs (see Chapter 2) are causing mental health challenges for growers in the sector.⁹³⁴
637. Dr David Rose, as Visiting Fellow at the Royal Agricultural University, told us about research showing that around 20 per cent of growers are thought likely to be depressed. He explained that farmers and growers faced challenges accessing mental health support properly tailored to their needs, while there was a problem more generally with “stigma and stoicism” in the sector. He suggested “there is a lot of work that the horticulture sector could do in general to normalise speaking out and getting support for mental health”.⁹³⁵
638. **The links between health, wellbeing and horticulture and green spaces more widely are broadly appreciated but there is more scientific research to be done to ensure we are making the most of our green spaces. Social prescribing and horticultural therapy programmes could provide significant benefits for those struggling with mental and physical ill-health and may reduce the burden on the NHS, but this must be properly resourced and regulated.**
639. *The Government must publish the findings from its ‘Preventing and Tackling Mental Ill Health Through Green Social Prescribing’ programme at the earliest opportunity. It must develop an action plan to mobilise social prescribing and nature-based solutions to ill-health and implement proper regulatory oversight of such systems.*
640. **Farmers and growers may face specific health challenges due to the remote and physical nature of their work and some individuals may**

931 Written evidence from Jonathan Sheppard and Adam Frost ([HSI0043](#))

932 Written evidence from Dr Hannah Pitt and Dr Lydia Medland ([HSI0039](#))

933 Written evidence from Young People in Horticulture Association ([HSI0068](#))

934 Written evidence from British Apples and Pears Ltd ([HSI0063](#)); [Q 215](#) (Dr David Rose)

935 [QQ 215](#) and [216](#) (Dr David Rose)

struggle to seek help, particularly with mental health challenges, due to stigma.

641. *The Government should consider how the health of those professionally engaged in the horticultural and wider agricultural sector can be supported to access mental and physical health services appropriate to the occupational risks they face.*

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

1. Several departments, bodies, and organisations make decisions that impact the horticultural sector, but there is a lack of cross-departmental working. This can result in delays and inefficiencies in decision-making. (Paragraph 7)
2. *The Government should consider establishing a cross-departmental horticultural sector working group, to include participants from Defra, DfE, DHSC, DBT, DESNZ, and the Home Office.* (Paragraph 8)
3. Short-term Government planning cycles are at odds with the certainty needed across the horticulture sector, many parts of which need to plan across a five to 20-year cycle. The Government's failure to produce a Horticulture Strategy for England has confounded many in the horticulture sector and left them feeling forgotten by Government at their moment of greatest need. We intend that this report provide an optimistic vision of the future for the sector in England, and recommendations for what might be done to guide it into the future, but it is not a substitute for a Government strategy. (Paragraph 13)
4. *The Government must look to reassure and guide the horticultural sector through longer-term planning cycles. To this end, it must publish a Horticulture Strategy for England as promised in the Government Food Strategy as a matter of highest urgency.* (Paragraph 14)
5. The Government has commissioned expert reviews relevant to this area, and we thank the authors of the Automation in Horticulture Review, the Independent Review into Labour Shortages, the Consultation on the Common User Charge, and the Consultation on the Review of the R&D Tax Reliefs Review. It is not acceptable that we are still waiting for Government to respond to these reviews. (Paragraph 16)
6. *The Government must publish a response to the Automation in Horticulture Review, the Independent Review of Labour Shortages, the Consultation on the Common User Charge, and the Consultation on the Review of the R&D Tax Reliefs Review as soon as possible.* (Paragraph 17)
7. Horticulture, particularly ornamental horticulture, is not given enough prominence within the portfolio of the Minister for Food, Farming, and Fisheries, which leads to horticultural businesses feeling like they do not have a voice in Government. (Paragraph 21)
8. *The Government must appoint a Minister with specific horticultural responsibilities to provide direction and accountability for the sector.* (Paragraph 22)
9. The Environmental Land Management Schemes (ELMS) policy is a positive step towards accomplishing the Government's goals of growing and maintaining a resilient and productive agricultural sector over the long-term, whilst achieving environmental and climate targets. The updated SFI guidance published in June 2023 shows that the scheme can change rapidly based on the needs of growers, but evidence to this inquiry shows that ELMS needs further work to be of maximum use to growers. Many growers, particularly those in intensive farming, or working on plots of less than 5ha, do not feel that ELMS meets the needs of their businesses. We are also concerned that ELMS does not offer sufficient incentives to growers in the ornamental horticulture sector, or to urban land managers. (Paragraph 29)

10. *The Government must continue to provide tailored communications to the horticultural sector, particularly to growers of ornamental plants, on ELMS schemes for which they are eligible. If applications to the scheme from these growers remain low, the Government should consult on broadening the criteria to make ELMS more accessible to land managers in the ornamental horticulture sector, including to those who manage land in urban spaces such as community gardens. (Paragraph 30)*
11. *The Government must “test and trial” an ELMS initiative for growers in intensive horticulture and protected edibles that is delinked from farm size. (Paragraph 31)*
12. *Payments from the ELMS scheme should be kept under review to ensure they fully recognise the loss of income from reduction of productive land. (Paragraph 32)*
13. *The Government must set out how it will implement the lessons learned from the 2022 ELMS test and trial undertaken with the Landworkers Alliance. (Paragraph 33)*
14. A conflation of factors such as the war in Ukraine and the longstanding impact of the pandemic on supply chains has demonstrated how vulnerable the UK is to energy price fluctuations. Exacerbated by inflationary pressures, growers in the protected horticulture sector have faced huge increases in energy costs, but it is not recognised as an energy-intensive industry. (Paragraph 43)
15. *The Government must recognise horticulture as an energy intensive industry and add it to the list of sectors eligible for the ETII scheme. (Paragraph 44)*
16. Recent gas price increases have led to spikes in fertiliser prices, particularly for manufactured ammonium nitrate and urea fertilisers, which take a significant amount of energy to produce. There is a pressing need to address this issue in the short term. (Paragraph 50)
17. *The Committee agrees with the EFRA Committee that the Government should set out how it will ensure continued fertiliser production in the UK. The Fertiliser Industry Taskforce must make good on its promise to increase transparency in the fertiliser market to help mitigate the effects of price volatility by working closely with industry on a regular basis. In the long term, the Taskforce must take note of our recommendations on R&D with a view to reducing dependence on nitrogen and phosphorous-based fertilisers. (Paragraph 51)*
18. Loss-leader strategies, price-matching to the lowest bidder and the perceived imperative to offer low prices to consumers at the expense of grower returns is squeezing the UK horticultural sector out in favour of cheaper imports. Despite the need for affordable food, particularly during a cost-of-living crisis, supermarket activity is fundamentally damaging food security in the UK by further increasing our reliance on cheap overseas imports and putting UK growers out of business. The Government’s review of fairness in the horticultural supply chain is welcome. (Paragraph 62)
19. *The Government must conduct and publish its review of fairness in the horticultural supply chain as soon as possible and include ornamentals within its scope. (Paragraph 63)*
20. The GCA is effective and improving compliance with the GSCOP Code. We recognise that it does the best it can with the limited resources provided to it by Government, but the GCA’s role is too limited to stand up for growers effectively. (Paragraph 72)

21. *The GSCOP code must be refreshed to embed the 7 Golden Rules identified by the GCA. The CMA must review the scope and remit of the GCA to examine whether the powers the GCA has are appropriate for a wider scope and if they should be increased to address broader supply chain relationships, including processors and wholesale purchasers. Ornamentals should be included as part of the horticultural sector supplying to retailers. (Paragraph 73)*
22. The UK is far from being self-sufficient in fruits and vegetables, and this has become worse in recent years. The Prime Minister has promised to boost domestic food production, but has so far failed to do so. There is considerable scope for halting and reversing the decline in food security if the Government set new policies and targets to do so. (Paragraph 89)
23. *We recommend in common with the EFRA Committee's recent recommendation that the Government should develop a suite of key food security indicators—from farm inputs and retailer outputs—to monitor and ensure food security and report annually as committed to by the Prime Minister. In addition, the Government must, as a priority, define targets for food self-sufficiency and set itself statutory reporting duties against those targets together with key food security indicators. Defra should, as a matter of urgency, reconsider its interpretation of international rules and consider barriers to promoting British food. (Paragraph 90)*
24. Supermarkets should do more to promote environmentally friendly actions through encouraging consumers to buy British produce and to increase consumer awareness of seasonality. (Paragraph 99)
25. *The Government should work with industry to launch a campaign to define what is unique and special about British produce and encourage consumers to buy more seasonal British produce. (Paragraph 100)*
26. Biosecurity is of fundamental importance, and it is essential to assess this risk during the import and export process. However current processes are unwieldy and do not account for the huge variance in plant types captured under the same risk categories. (Paragraph 116)
27. *The risk model proposed in the Border Target Operating Model should be kept under review and more clarity provided to accompany risk status updates. (Paragraph 117)*
28. The Plant Healthy Certification Scheme is a positive mechanism by which to increase biosecurity and is supported by industry. Its widespread adoption should be championed by the Government. (Paragraph 118)
29. *The Plant Healthy Certification Scheme should be compulsory, and support must be provided to ensure SMEs are supported to achieve accreditation. (Paragraph 119)*
30. Boosting the availability of UK-grown plants will further enhance the UK horticultural sector and help to support UK biosecurity. (Paragraph 120)
31. *The Government should work with industry to promote a British kitemark for UK plant products in tandem with the recommended campaign to help consumers recognise what is unique and special about British produce. (Paragraph 121)*
32. The publication of the final BTOM is welcome and we are pleased that the updated timeframe offers more opportunity to allow the horticultural sector to prepare for implementation. However, the sector continues to operate amidst serious uncertainty given a lack of clarity on timelines for digitalisation and the AOS scheme. (Paragraph 143)

33. *The Government should set out clear timelines for the integration of new and upgraded technologies. It should urgently set out its plans including costs and timeframes for the pilot and implementation of the AOS scheme to enable a seamless transition for businesses in the sector. The Government should keep the relationship between the Windsor Framework and the BTOM under review to ensure effectiveness. (Paragraph 144)*
34. Communication on the implementation of the BTOM has been poor, which has left importers feeling unsupported. The successful implementation of the BTOM must not be jeopardised by a lack of communication with industry. (Paragraph 145)
35. *The Government must communicate clearly and collaboratively with industry during implementation of the BTOM. It should make good on its promise to work with importers utilising groupage to clarify procedures and ensure complexity and cost is minimised. This should include reviewing the possibility of easements for SMEs and clearly setting out the costs associated with operating and using BCPs and CPs. (Paragraph 146)*
36. The costs of the Common User Charge could be enormous for horticultural businesses, particularly for SMEs and exporters to the UK. Yet there is no clear information on the impact on businesses or consumers and no clear definition of ‘consignment’. (Paragraph 147)
37. *The Government must define ‘consignment’ for the purposes of charges under the new model. The response to the consultation on the Common User Charge should be published as soon as possible. If it should go ahead, the charge should be reviewed regularly to ensure costs are not squeezing out small businesses. (Paragraph 148)*
38. Ineffective CITES processes and costs are inhibiting effective imports of plant species into the UK and leading to the destruction of legitimately traded plants. (Paragraph 154)
39. *CITES processes should be digitalised and import permits should be scrapped to reduce duplication of paperwork. The administrative cost of obtaining a CITES permit should be reviewed to allow SMEs to trade effectively. A more flexible mechanism must be put in place to protect legitimately traded plants being destroyed due to incorrect paperwork. In the case of no-fault destruction of consignments, the Government should consider a mechanism to reimburse growers. (Paragraph 155)*
40. From the time that children enter school, the National Curriculum fails to give them a good basic knowledge of horticulture and horticultural skills. This failure to promote horticulture continues in post-primary education, when young people, many of whom are highly motivated by the prospect of working in a ‘green job’ or a highly skilled career in STEM, are not guided towards the horticultural sector as an opportunity to combine the two. (Paragraph 163)
41. *Horticulture should be put on the curriculum as a stand-alone topic within the science curriculum at all Key Stages. (Paragraph 164)*
42. *At Key Stages 3 and 4, career guidance teachers and counsellors should be given far more information about horticultural careers including those at university and research levels and to support them in pointing students to the varied opportunities available. Qualifications should be encouraged but they should not be a barrier to entry. (Paragraph 165)*

43. As a result of perceived societal barriers to entry and a perception of who is welcome in the industry, the horticulture sector is missing out on talented people from diverse backgrounds. More work is needed to make horticulture truly accessible to all, and to ensure that the breadth of roles in the sector are widely known. (Paragraph 170)
44. *The Government must support The Institute for Agriculture and Horticulture to ensure that its careers programmes and schemes reach young people and new entrants from under-represented backgrounds.* (Paragraph 171)
45. While the Committee welcomes the establishment of the Institute for Agriculture and Horticulture and applauds the ambition of its remit and its early successes, it is disappointed that it does not cover the ornamental sector. (Paragraph 174)
46. *The Government must expand TIAH's remit to include the ornamental sector as soon as is feasibly possible. Any such expansion must be adequately staffed, funded, and supported.* (Paragraph 175)
47. We welcome the introduction of a T Level in Agriculture, Land Management, and Production, but we are concerned about its shaky start. To ensure its success, Government must learn the lessons of the Ofsted T Level thematic review and listen to industry providers about what is needed to deliver courses successfully. (Paragraph 182)
48. *The Government should explain what changes they have made to the Agriculture, Land Management, and Production T Level on a "lessons learned" basis following the Ofsted thematic review of extant T Level courses.* (Paragraph 183)
49. *The Agriculture, Land Management and Production T Level should be reviewed after its first year with a view to allowing land-based colleges to deliver the work-experience element of T Level courses on site.* (Paragraph 184)
50. *The Government should support providers of the Agriculture, Land Management and Production T Level to raise awareness of the qualification amongst potential students and in the industry.* (Paragraph 185)
51. Apprenticeships at all levels are a valuable way for people to find routes into horticulture, however, at present, the apprenticeship levy is too rigid and provides poor value for money: it is not meeting the training needs of the sector. The complexity of the levy, and restrictions on who can access it and when, mean that rural SMEs are missing out on valuable opportunities to hire new apprentices and to upskill existing staff. (Paragraph 191)
52. *The Government must reform the apprenticeship levy to meet the needs of horticultural businesses. Flexibility should be introduced to support delivery of training in rural settings, for example a removal or lowering of minimum thresholds for attendees for training courses. There should be greater flexibility around the use of the apprenticeship levy to support the "bite-size learning" of specific skill sets to up-skill existing workforces. The Government must open up the apprenticeship levy to seasonal workers or provide an alternate training scheme for them to support SMEs who rely on this workforce.* (Paragraph 192)
53. The higher education sector is not producing people with the skills needed to enable the horticultural sector to tackle the challenges of implementing the sustainable development goals and secure a sustainable supply of healthy food. (Paragraph 197)

54. *We encourage universities offering courses in Plant Science, Horticulture or Botany to revise their module list considering the skills needed in the sector, to ensure that their graduates are trained to meet the challenges of the industry. The Department for Education should offer advice and support on this where possible and appropriate. (Paragraph 198)*
55. *We support the recommendation of the Independent Review that further and higher education funding bodies should review food supply chain-related subjects to ensure courses are well resourced and that recurrent and capital funding is enhanced and protected in the long-term. (Paragraph 199)*
56. The speed of technological innovation in the horticultural sector brings with it new opportunities for innovation, and for young people to find exciting careers. However, there is a need for long-term workforce planning to ensure a skills match between those working in the industry and the pace of innovation. (Paragraph 203)
57. *The Government must produce a strategy to ensure that there are sufficient skilled workers available in key areas as recommended by the Independent Review into Labour Shortages in the Food Supply Chain. (Paragraph 204)*
58. The Seasonal Worker Scheme is vital for UK food security and the health of the horticultural sector. However, there is limited and conflicting information in the public domain about how well the scheme is operating. (Paragraph 212)
59. *The Government must publish its review of the seasonal worker route, as promised in response to the Independent Chief Inspector of Borders and Immigration's December 2022 report. It must also respond to the Migration Advisory Committee's latest Review of the Shortage Occupation list. (Paragraph 213)*
60. *The Government should convene a meeting of retailers and the NFU, with representation from seasonal workers, to discuss the welfare issues raised in this report. (Paragraph 214)*
61. If the Government is serious about recruiting a domestic labour force to seasonal work, it must address the barriers which stand in the way: poor pay and conditions in the sector, a lack of affordable rural housing, poor rural transport links, and perceived inflexibility in the tax and benefits system. (Paragraph 222)
62. *The Government must review options to make local housing and transport more affordable to ensure that local people are not discouraged from taking up seasonal work. They must also ensure that flexibility in the tax and benefits system is being properly advertised to claimants who may wish to move into work temporarily, and to ensure that government departments are communicating with one another about these opportunities. (Paragraph 223)*
63. We welcome the early announcement of the seasonal worker visa figures for 2024 but note the 33 per cent reduction in numbers. We are glad that the Government has begun to respond to industry demand for more advanced visa announcements to line-up with grower planning cycles. However, we are conscious that growers need as much certainty as possible and are concerned that the Government's commitment to tapering the scheme may lead to delays in announcing future visa figures, thereby threatening the usefulness of the scheme to growers. (Paragraph 232)

64. *The Government must commit to data collection to understand how many seasonal workers will be needed in the UK in the short, medium, and long-term. Once these figures are collected, a seasonal workers workforce plan should be published detailing how many visas are needed and how many the Government expects to make available for the next 5, 10 and 20 years. (Paragraph 233)*
65. *Even if there is flexibility on the exact number of visas available, the Government must guarantee the existence of the seasonal workers scheme, in principle, for five years at a time, as per the recommendation made in the Independent Review of Labour Shortages in the Food Supply Chain. The Government must communicate any changes to the scheme in good time to allow scheme operators and growers to plan ahead and to communicate with incoming seasonal workers. (Paragraph 234)*
66. *To lower recruitment and training costs to growers, increase efficiency, and to retain and attract talent on UK farms, the seasonal worker scheme visa should be extended to nine months, and employers should bear the consequent cost of the NHS surcharge incurred after six months. (Paragraph 235)*
67. We have heard evidence to suggest that some seasonal workers are being charged extremely high illegal recruitment fees by scammers, criminals, and most troublingly by the overseas staff of scheme operators. This practice is damaging both to the lives and livelihoods of current and would-be seasonal workers and to the businesses and reputations of UK scheme operators. (Paragraph 243)
68. *The GLAA must, as a priority, re-establish confidence with industry that it competently applies due diligence in the licensing of overseas labour recruiters in accordance with its own guidelines. It must define legal requirements country by country and inspect against these, ensuring that there is a sustainable operational and commercial model in place that does not involve charging recruitment fees to workers, inappropriate sub-contracting, or the use of unlicensed gangmasters. (Paragraph 244)*
69. *The GLAA must issue new guidance on scam adverts for UK seasonal worker schemes. (Paragraph 245)*
70. Competition for seasonal workers amongst developed nations is high, and the UK must be able to secure a supply of workers. Small reforms to visa processing fees and tax codes will allow seasonal workers to retain more of the money that they earn in the UK, making it a more attractive destination: at no additional cost to growers. (Paragraph 248)
71. *To encourage workers to return to the UK, and therefore cut training costs for UK growers, the Government should process the visas of returning seasonal workers at cost. (Paragraph 249)*
72. *Reforms should be made to how seasonal workers are taxed to allow them to retain more of their earnings. A dedicated seasonal workers' tax code should be introduced under which no income tax is levied until the worker has reached the annual tax threshold. The pension auto-enrolment and National Insurance enrolment obligations should be removed. Employer National Insurance should be allocated to refund the costs of visa and travel for seasonal workers. (Paragraph 250)*
73. Seasonal workers have the same right as anyone else to claim their right to asylum under Article 14 of the Universal Declaration of Human Rights. However, this should not interfere in the lawful operation of scheme operators' businesses, and scheme operators should not be penalised if one of their

workers claims asylum. Scheme operators are not asylum caseworkers, and nor should they be expected to behave as such. (Paragraph 254)

74. *To protect the lawful operation of scheme operators' businesses, workers who claim asylum should not be included in the Home Office requirement that 97 per cent of sponsored workers leave the UK at the end of their stay. (Paragraph 255)*
75. Seasonal workers work in the UK for a short time, but for the time that they are here, they are owed the full protection of existing UK employment laws and standards. For some, that protection has been lacking, leaving them open to labour abuse. Routes to redress for workers are limited, and when they do report exploitation, the effectiveness of enforcement is curtailed by the coupling of labour market with immigration enforcement, and a jumbled mix of bodies responsible for carrying out enforcement. (Paragraph 268)
76. *The Government must separate labour inspectorates from immigration enforcement and make clearer the roles and responsibilities of current enforcement bodies including the Home Office. The Government must provide an official source of redress to seasonal workers that is not linked to immigration. (Paragraph 269)*
77. *Seasonal workers should be informed of their right to join a trade union during the recruitment process and upon their arrival to the UK and should be signposted to other sources of support. (Paragraph 270)*
78. *A compulsory welfare spot-check should be introduced between month three and six at farms that host seasonal workers, during which a selection of workers should be interviewed by the GLAA/Home Office to ensure that welfare standards are being upheld on the farm. This interview should be available in the first language of the workers, and it should be made clear that it has no link to their immigration status and is totally anonymous and confidential. Worker accommodation should also be inspected. Inspectors should have the power to fast-track cases of non-compliance with existing labour laws to the relevant bodies. (Paragraph 271)*
79. We are concerned by reports from the Director of Labour Market Enforcement and the Independent Chief Inspector of Borders and Immigration that the Home Office is failing to assure itself that the seasonal worker scheme is not perpetuating poor working conditions. The role of the GLAA is to protect vulnerable workers, but it is not being adequately funded or staffed to the degree that it needs to be to fulfil its remit. (Paragraph 278)
80. *The GLAA must implement a system of audits, spot-checks and systematic inspections on farms that are part of the seasonal worker scheme. There should be a clear, tiered, enforceable system of penalties for those who fail to enforce labour laws. The Home Office must increase the budget of the GLAA so that it is able to fulfil its function. Some of this budget increase should be ringfenced so the GLAA is able to hire more labour inspectors in line with the number recommended by the ILO. (Paragraph 279)*
81. The Committee welcomes the announcement that all seasonal workers must be paid the National Living Wage and receive a minimum of 32 hours of paid work per week. However, given the evidence we have received about under-payment and non-payment of wages, we urge the Government to ensure that this is properly complied with. When the work at one placement comes to an end before 6 months is up, the sponsoring agency should seek to move the worker to another placement. This should not be the responsibility of the grower. (Paragraph 280)

82. *The GLAA must proactively enforce the full payment of the National Living Wage to all seasonal workers for 32 hours a week. If the GLAA does not have the resources to do so, responsibility for this task should pass to HMRC. The Government should update the guidance to specify that this means 32 hours a week for the full six-month season. (Paragraph 281)*
83. The Committee has heard about instances of disproportionate fees being charged for dismal accommodation on some UK farms. Under no circumstances should workers be asked to share beds with strangers, or fear for their lives in cold and wet weather. In some cases, poor living conditions appear to be exacerbated by a lack of clarity from Government on the longevity of the seasonal workers scheme and prohibitive and patchy planning rules. We were encouraged by stories of good practice and know that there are many growers who want to do right by their workers, who would benefit from more Governmental clarity on this issue. (Paragraph 290)
84. *The Home Office should issue new guidance clarifying that all caravans provided for use by seasonal workers must reach BS3632. Local authorities should be given a duty to inspect and enforce both this standard, and health and safety regulations in caravans housing seasonal workers. The new advice should clarify that only caravans with shared living space and single-occupancy bedrooms which reach BS3632 should be eligible for the maximum occupancy charge, which should not exceed the accommodation offset rate. (Paragraph 291)*
85. *The DLUHC should report on the results of the consultation on extending the Decent Homes Standard to the private rented sector, including on how this standard would apply to the seasonal workers scheme. (Paragraph 292)*
86. *Rental contracts for accommodation should be provided in seasonal workers' own languages and signed and agreed ahead of their arrival in the UK. (Paragraph 293)*
87. The accommodation offset rate includes rent, utilities, and laundry, but we have heard evidence that workers are being charged additional fees for these services. (Paragraph 294)
88. *The GLAA should consider how widespread this practice is, and what can be done to ensure that workers are not being charged additional fees. (Paragraph 295)*
89. There is a lack of joined-up thinking between the immigration system and labour market regulation, including in the interaction between the accommodation offset rate and the NLW. (Paragraph 296)
90. *We endorse the recommendation made by the Low Pay Commission that the Government work together to address the interaction between seasonal workers' rate of pay and the accommodation offset rate. (Paragraph 297)*
91. Many employers want to provide decent accommodation for their workers but some are being prohibited from doing so because of restrictive planning laws. (Paragraph 298)
92. *The Government should consider what flexibility can be introduced into the planning system to enable more farms to provide a higher standard of accommodation to workers. (Paragraph 299)*
93. The UK is claimed to be leading the world in horticulture automation, an innovation that provides an exciting opportunity to address labour supply issues, reduce pesticide use, and complete many of the horticulture

industry's most mundane tasks. Yet barriers exist to mass adoption, and the Government must set out its approach to co-ordinating private and public leadership and funding for R&D, whilst managing ongoing labour shortfalls. (Paragraph 315)

94. *We thank Professor Pearson for his Automation in Horticulture Review, endorse its recommendations, and urge the Government to adopt them in full. The Government must publish their response to the Review, in which they outline a plan against each of Professor Pearson's recommendations, as a matter of urgency.* (Paragraph 316)
95. The horticultural sector relies on Government support to take up technological innovation through schemes like the Farming Equipment and Technology Fund, but many of these schemes are of limited use to horticulturists, particularly those in the ornamental sector. (Paragraph 317)
96. *The Farming Equipment and Technology Fund should be redesigned to make 100 per cent grants available, introduce flexibility in the technology that can be purchased, ensure that all technology applicable to both edible and ornamental horticulture is clearly listed as such, and enable provision to lease or co-own equipment to support smaller growers.* (Paragraph 318)
97. Given the damaging environmental impact of peat extraction, whether it occurs at home or overseas, it is right that the Government is accelerating the pace of movement towards a peat-free future for the horticulture sector. Businesses have had over a decade to prepare for this transition and, despite the best efforts of many, they have not moved far enough fast enough. However, the Government has not provided adequate support to help them make this transition, which may leave some businesses at a cliff edge in 2026. (Paragraph 361)
98. *The Government must urgently bring forward legislation and detailed guidance to provide clarity and certainty for the sector on how the peat ban will work in practice, including enforcement measures. It should not implement a total ban until it undertakes a full, revised impact assessment. It should consider appointing an existing sector body or group of representative bodies to spearhead the transition.* (Paragraph 362)
99. There is a significant risk that the UK's ban on peat could jeopardise imports and lead to a shortfall of plants for the UK market. Should Defra decide not to apply the ban to imports, it could result in a flooding of the market with overseas imports and those from the devolved administrations that undercut growers in England and put them out of business. There has been little clarity on this topic to date. (Paragraph 363)
100. *The Government must urgently and clearly outline whether the peat ban will apply to all imported products and set out a plan to establish how the domestic market will be safeguarded against peat-grown imports in collaboration with the Office for the Internal Market. It must work better with its international trading partners, particularly the Netherlands and the devolved administrations, to design a collaborative approach to peat-free.* (Paragraph 364)
101. It is possible that the peat ban could have serious unintended consequences. There is a significant risk that by reducing the emissions from peat extraction at home, we are supplanting the loss with emissions resulting from importing alternatives such as coir, effectively exporting our carbon footprint. Less

absorptive peat alternatives may require greater water and fertiliser resources and could increase the presence of microplastics in the soil. (Paragraph 365)

102. *The Government must set out in its forthcoming updated impact assessment how the proposed ban could unintentionally cause environmental damage stemming from use of alternative growing media and how it intends to prevent or mitigate such damage.* (Paragraph 366)
103. Some plants simply will not grow well in peat-free growing media, particularly given the variance in quality of peat-free media. (Paragraph 367)
104. *The Government must work closely with the sector to establish a realistic list of exemptions to allow more time for R&D innovation into alternative growing media. It must work with the industry to set a minimum standard for quality.* (Paragraph 368)
105. The Government has not done enough to foster a supportive and innovative environment to enable R&D projects to explore and establish viable alternatives to peat. Businesses cannot make the transition to peat-free without financial support for R&D and further Lifecycle Carbon Analysis of alternatives, particularly those imported from overseas. (Paragraph 369)
106. *The Government must continue to provide funding to support research into viable alternatives to peat in collaboration with the industry and academics. It should establish a communications campaign tailored to the professional sector to increase awareness of the viability of alternatives to peat and communicate the findings from its research projects in collaboration with the RHS.* (Paragraph 370)
107. Agri-chemicals can have a damaging impact on soil health and may present risks to human health and water quality. The sector is taking steps to move towards bio-pesticides and fertilisers; however, it requires more support to make this transition and a target to work towards. (Paragraph 403)
108. *The Government should set a target for the reduction in use of those agri-chemicals that are demonstrably harmful, including certain pesticides and fertilisers in the horticulture sector. It should consult with the sector on a realistic timeframe for implementation and consider mandatory bans if voluntary action is not forthcoming.* (Paragraph 404)
109. It is clear that climate change will continue to impact water availability both now and in future. If the horticultural sector is not effectively supported to transition to sustainable water management practices, ornamental horticulture and UK food security will be seriously jeopardised. The Plan for Water is welcome but water management in the horticulture sector requires a tailored approach. (Paragraph 447)
110. *The proposed Horticulture Strategy must detail how it will support the sector to achieve the ambitions announced in the Plan for Water.* (Paragraph 448)
111. The sector is innovating at pace. New technological and scientific developments such as breeding cultivars with better drought tolerance and genetic editing for drought resilience are promising and support through the Farming Innovation Programme is welcome, but they require effective and innovative R&D and collaboration with industry. (Paragraph 449)
112. *The Government must continue to support innovative gene editing programmes in close collaboration with academia and industry and must communicate the findings*

of such studies to industry to translate research into practice. A biannual report on the Farming Innovation Programme should be an effective vehicle for this. (Paragraph 450)

113. While there is a clear need for water usage to be reduced across the board, current plans to restrict abstraction licences may compromise food security and the supply of ornamental plants. (Paragraph 451)
114. *The Government must continue to explore how horticultural growers can access technical support to obtain an abstraction licence and take steps to reduce the length of time taken to determine applications. (Paragraph 452)*
115. The last reservoir to be opened was over thirty years ago. Growers need a more supportive planning system to harvest high flows and reduce dependence on abstraction during the summer. (Paragraph 453)
116. *The Government must urgently publish its call for evidence on the planning barriers to small reservoirs with a view to helping land managers with water supply. It must make good on its National Policy Statement for Water Resources Infrastructure and must streamline the planning permission process for nationally significant water infrastructure projects, enable new water supply infrastructure and provide planning guidance for applicants. (Paragraph 454)*
117. While Water Management Grants are welcome, the scheme could be amended to be more flexible for a wider range of businesses. (Paragraph 455)
118. *The Government should lower the investment minimum for Water Management Grants to enable small businesses to benefit and continue to work with the sector to streamline the scheme to make it more accessible to a wider range of growers. (Paragraph 456)*
119. The Committee welcomes the Government's consideration to inviting public bodies in the agriculture and horticulture sector to report under the Adaptation Reporting Power as stated in the third National Adaptation Programme. Consideration of the inclusion of canals and reservoirs as well as reporting on food supply within the Adaptation Reporting Power as set out in the Third National Adaptation Programme is also welcome. (Paragraph 457)
120. *The Government must press ahead with these proposals and update the industry on its consideration in relation to horticulture in a timely fashion. (Paragraph 458)*
121. Both amateur and professional growers require more support to transition to effective water management. (Paragraph 459)
122. *The Government should work with the industry to support campaigns for industry to help businesses and consumers to reduce water use in professional and amateur horticultural settings. (Paragraph 460)*
123. The Government has promised to develop a land use framework, however so far no such framework has materialised. It is vital this framework is published to ensure net zero and biodiversity targets are met. (Paragraph 485)
124. *The Government must publish its long-awaited Land Use Framework as promised in 2023. Policy relating to horticulture must be clearly marked within this strategy. (Paragraph 486)*

125. Innovative urban and vertical farms can provide a vital food source to city populations, cutting down on food miles and providing additional environmental benefits in the process. They provide innovative spaces for agri-tech and could provide jobs for local people. While their small space is part of their benefit, however it is also causing these businesses to be hampered by the inability to take advantage of farm subsidies. (Paragraph 487)
126. *The Government should remove the 5ha limit on eligibility for ELMS to support urban farms. It should consult on business rates for vertical farming and amend the NPPF to reflect their status as agricultural businesses.* (Paragraph 488)
127. Biodiversity Net Gain is a fundamentally positive strategy to increase biodiversity and replace or restore green space damaged due to development either on-site or off-site. However, we are concerned that allotments are not considered as part of this framework, while protected horticulture developments (which are actively promoting biodiversity) may actually be hampered by the proposals. We remain concerned about enforcement related to the upkeep of BNG spaces once created. (Paragraph 489)
128. *The Government should include allotments within the framework for Biodiversity Net Gain and introduce an exemption for such horticulture developments. The Government must set out how developers and local authorities will ensure the maintenance of BNG spaces.* (Paragraph 490)
129. The sector recognises the need to transition to renewable energy. However, there remain barriers in making such a transition economically viable for horticultural businesses. (Paragraph 503)
130. *The Government should review available incentives for energy-intensive horticultural businesses to transition to renewable energy in order to build resilience to future energy shocks and make progress towards net zero.* (Paragraph 504)
131. Growers want to support the transition to net zero and reduce their environmental impact, but they cannot make this transition without first understanding their own emissions footprint. Current approaches to measuring environmental impact are not joined up or sufficiently relevant to the horticulture sector. (Paragraph 514)
132. *The Government must do more to establish better Life Cycle Assessment data for the horticultural sector to support Carbon Footprinting exercises as part of an accelerated move towards a single standard for environmental measurement and reporting. It should consider how ELMS could encourage take-up of such approaches.* (Paragraph 515)
133. Private gardens and amateur horticulturalists are essential to addressing the climate crisis. However, in order to make effective choices, individuals must be supported to make decisions around plants, packaging and growing media that benefit the environment. (Paragraph 529)
134. *The Government should work with industry influencers such as the RHS to develop a simple messaging campaign to raise awareness amongst consumers about environmentally-friendly and climate-resilient growing in domestic settings. It should provide clear guidance on pollinator-friendly species.* (Paragraph 530)
135. Domestic gardens can be a haven for pollinators that are vital to biodiversity. (Paragraph 531)

136. *At the end of its term in 2024, the Government should review the effectiveness of its strategies to engage the public within the National Pollinator Strategy 2021–2024, including the reach of the ‘Bees Needs’ campaign and its work with growers to maximise the use of pollinator-friendly plant labelling. It must commit to publishing a revised strategy from 2024 onwards based on the learnings from such a review.* (Paragraph 532)
137. Plastic remains widely in use in the retail horticultural sector due to a lack of research into viable packaging alternatives, while patchy processes on recycling plastic pots is hampering the efforts of the sector to transition towards greater circularity. At the same time, low-maintenance trends such as turfing over green spaces with artificial grass provide no benefit to the environment and may have a negative impact on biodiversity in the long term. (Paragraph 533)
138. *The Government must ensure that local authorities have a consistent approach to permitting the kerbside collection of plastic garden waste for recycling. It should consult on banning the retail sale of artificial grass and plants for outdoor use.* (Paragraph 534)
139. Historically, the UK has benefited from world-class research and development infrastructure and resources in horticulture. Whilst there are elements in our research centres that produce world leading research, it can no longer, overall, be said to be world-class. (Paragraph 540)
140. *The Government must undertake a comprehensive review of the future direction of research and development in horticulture and its funding landscape. Public-private partnerships should be supported by Government in both policy and funding models to bind the fragmented landscape, emulating the Dutch ‘triple helix’ model.* (Paragraph 541)
141. The R&D landscape focuses too heavily on the use of short-term competition funding. This requires significant resources from scientists who must repeatedly reapply for funds and leaves little certainty when planning the kind of long-term strategic initiatives that are needed in this space. (Paragraph 546)
142. *We urge the Government to re-think its preoccupation with competitive short-term funding as the only solution and give urgent attention to the need for some R&D institutions to receive longer-term core funding for advances in edible and ornamental horticulture.* (Paragraph 547)
143. We are concerned by reports that horticulture is an “orphan science”, left out of both Defra and UKRI funding pots, and about the effect that this exclusion could have on the sustainability and profitability of growers’ businesses, and on UK net zero targets. Most R&D in horticulture concerns technology development, but not enough emphasis is placed on on-farm and low-tech innovations, which would maximise impact through relatively low-cost interventions. (Paragraph 556)
144. *UKRI should undertake a review of BBSRC funding criteria to ensure that ornamental horticulture projects are given equal access to opportunities to apply for funding.* (Paragraph 557)
145. *Future R&D strategies should consider the value of on-farm and low-tech innovations and be willing to give smaller grants to small scale projects.* (Paragraph 558)

146. The closure of AHDB Horticulture is a loss to the industry, both in terms of sheer research capital and as a venue for knowledge exchange. We cautiously welcome the tenure of Horticulture Crop Protection Ltd but suspect that it will struggle to replicate the full scale of what AHDB Horticulture was able to do. (Paragraph 563)
147. *The Government should keep the impact of the closure of AHDB Horticulture under review and work with the sector to address resultant challenges.* (Paragraph 564)
148. We are pleased that the Government will replace the EU Fruit and Vegetables Aid Scheme, however the replacement for the scheme must be better tailored to the consolidated UK industry. (Paragraph 566)
149. *The Government must ensure the EU Fruit and Vegetable Aid Scheme's replacement is tailored to the UK horticultural landscape. It should make the process simpler for growers to be recognised, allow a more accessible funding programme for collaborative grower groups and individuals, and better provide for the variation in fresh produce crops.* (Paragraph 567)
150. Horticultural businesses require funding that matches the scale and length of their planning timeframe. Where possible, grants should match the length of growing cycles. Horticulture business cannot rely on short-term funding that leaves them at a cliff edge once the funding runs out. We recognise that the risk of investing in R&D can be significant and exacerbated by already squeezed grower returns. (Paragraph 573)
151. *The Government must work with UKRI to develop longer-term funding models for horticultural projects and introduce better models of follow-on funding to enable research to be translated into practice in line with horticultural growing cycles.* (Paragraph 574)
152. *The Government must publish its response to the consultation on the review of R&D Tax Reliefs and outline clearly how this will impact businesses including those in the horticulture sector. The Government should ensure that tax incentives and match funding opportunities are maintained.* (Paragraph 575)
153. *The Government must support a tailored campaign to promote the Farming Innovation Programme to ornamental growers via existing communications channels.* (Paragraph 576)
154. Allotments and community gardens provide a crucial space for urban populations to grow their own food and provide habitats for nature and biodiversity. However, provision of allotments is erratic across the country due to inconsistent local planning policy. (Paragraph 597)
155. *The Government should mandate that all local authorities are required to devise an allotment strategy as part of local plans, and to identify suitable land and training/mentoring partners as part of this strategy.* (Paragraph 598)
156. Community growing can enable people to come together to nurture unloved and underappreciated spaces. (Paragraph 599)
157. *The National Planning Policy Framework should be updated to fully recognise and reflect the role of community growing in local food security and biodiversity, as well as for its socio-economic benefits.* (Paragraph 600)
158. The horticulture sector has a fundamental role to play in establishing a secure supply of healthy fruits and vegetables for the UK market. In the

context of rising obesity, pressures on the NHS and a greater shift towards plant-based diets as part of the solution to tackling climate change, growers can play a vital role in supporting the nation's health whilst also boosting the sector. (Paragraph 610)

159. *The Government should recognise the role the domestic horticultural sector can play in supporting health, wellbeing and climate change agendas. It should recognise nutritional security as a public good and properly incentivise horticultural growers to deliver against its public health ambitions.* (Paragraph 611)
160. Public procurement has an opportunity to provide a strong market for UK produce and to increase the provision of sustainably produced, healthy fruits and vegetables to public sector organisations. (Paragraph 612)
161. *The Government must urgently publish its response to the consultation on public sector food and catering policy for England. It should re-specify the School Fruit and Vegetable Scheme to allow schools the freedom to procure healthy produce from local suppliers.* (Paragraph 613)
162. The health system must respond dynamically to health challenges and fruit and vegetable prescriptions are a simple and potentially effective means of doing this. (Paragraph 614)
163. *The Government must publish its plans for delivering the Community Eatwell pilot and commit to publishing the findings of the scheme.* (Paragraph 615)
164. The links between health, wellbeing and horticulture and green spaces more widely are broadly appreciated but there is more scientific research to be done to ensure we are making the most of our green spaces. Social prescribing and horticultural therapy programmes could provide significant benefits for those struggling with mental and physical ill-health and may reduce the burden on the NHS, but this must be properly resourced and regulated. (Paragraph 638)
165. *The Government must publish the findings from its 'Preventing and Tackling Mental Ill Health Through Green Social Prescribing' programme at the earliest opportunity. It must develop an action plan to mobilise social prescribing and nature-based solutions to ill-health and implement proper regulatory oversight of such systems.* (Paragraph 639)
166. *Farmers and growers may face specific health challenges due to the remote and physical nature of their work and some individuals may struggle to seek help, particularly with mental health challenges, due to stigma.* (Paragraph 640)
167. *The Government should consider how the health of those professionally engaged in the horticultural and wider agricultural sector can be supported to access mental and physical health services appropriate to the occupational risks they face.* (Paragraph 641)

APPENDIX 1: LIST OF MEMBERS AND DECLARATIONS OF INTEREST

Members

Lord Redesdale (Chair)
 Earl of Arran
 Baroness Buscombe
 Lord Carter of Coles
 Lord Colgrain
 Lord Curry of Kirkharle
 Baroness Fookes
 Baroness Jones of Whitchurch
 Lord Sahota
 Baroness Walmsley
 Lord Watson of Wyre Forest
 Baroness Willis of Summertown

Declarations of interests

Lord Redesdale (Chair)
Owns two livestock farms in Redesdale Valley, Northumberland; Chair, Water Retail Company.

Earl of Arran
No relevant interests to declare

Baroness Buscombe
Hon Secretary, All-Party Parliamentary Gardening and Horticulture Group; Member, Royal Horticultural Society (RHS).

Lord Carter of Coles
Partnership in Lordships Farm, Dane End, Ware, Hertfordshire.

Lord Colgrain
Partner of Campbell Brothers, a farming partnership based in Kent with livestock and arable; Chairman of the Trustees of Belmont House and Belnor Farms, a charity based in Kent which operates an arable farm, and where the Gardens of Belmont House are open to the public all year round.

Lord Curry of Kirkharle
Trustee, Clinton Devon Estate; Chair, Food and Farming Futures; President, Social Farms & Gardens; Sponsor, The Institute for Agriculture and Horticulture (TIAH); Chair, What Works Centre Steering Committee.

Baroness Fookes
Co-Chair, All-Party Parliamentary Gardening and Horticulture Group; Liveryman, Worshipful Company of Gardeners; Member, The National Trust; Member, The Royal Horticultural Society (RHS); Member, The Woodland Trust; Member, The European Boxwood and Topiary Society (EBTS) UK.

Baroness Jones of Whitchurch

Chair, Rothamsted Enterprises, (part of the Rothamsted agri-tech Research Institute);

Member, South Downs National Park Authority.

Lord Sahota

No relevant interests to declare.

Baroness Walmsley

Member, the Horticulture All-Party Parliamentary Group;

Member, RHS;

Committee member, Welsh Historic Garden Association.

Lord Watson of Wyre Forest

No relevant interests to declare.

Baroness Willis of Summertown

Scientific Advisory Board, Aioi Nissa Dowra Insurance Research and Development Laboratory, Oxford;

Non-executive Director, Natural Capital Research Limited—a company which has recently won a tender with Tesco to help them develop metrics and approaches to understand and disclosure their impact on nature and the environment.

A full list of Members' interests can be found in the Register of Lords' Interests:
<http://www.parliament.uk/mps-lords-and-offices/standards-and-interests/register-of-lords-interests/>

APPENDIX 2: LIST OF WITNESSES

Evidence is published online at <https://committees.parliament.uk/work/7266/horticultural-sector> and available for inspection at the Parliamentary Archives (0207 219 3074).

Evidence received by the committee is listed below in chronological order of oral evidence session, and then in alphabetical order. Those witnesses marked with ** gave both oral evidence and written evidence. Those marked with * gave oral evidence and did not submit any written evidence. All other witnesses submitted written evidence only.

Oral evidence in chronological order

**	Tessa Jones, Director of Agri-Food Chain, Department for Environment, Food and Rural Affairs (Defra)	QQ 1–20
**	Gill Laishley, Deputy Director of Farming and Primary Processing, Defra	QQ 1–20
**	Tim Mordan, Deputy Director of Innovation, Productivity and Science, Defra	QQ 1–20 QQ 272–287
**	James Barnes, Chair, The Horticultural Trades Association (HTA)	QQ 21–40
**	Clare Matterson, Director General, Royal Horticultural Society (RHS)	QQ 21–40
**	Minette Batters, President, National Farmers Union	QQ 21–40
*	John Shropshire, Chair, Independent Review into Labour Shortages in the Food Supply Chain	QQ 41–53
**	Janet Swadling, Chief Executive, The Institute for Agriculture and Horticulture	QQ 41–53
*	Alex Payne, Chief Executive, Landex	QQ 54–68
**	Tim Hughes, Head of Learning and Participation, Royal Botanic Gardens Kew	QQ 54–68
*	Professor Tim Benton, Research Director, Chatham House	QQ 69–75
*	The Rt Hon. the Lord Deben, Chair, Climate Change Committee	QQ 69–75
*	Dr Chris Thorogood, Deputy Director of Oxford Botanic Garden and Arboretum, Oxford University	QQ 69–75
*	Matthew Appleby, Editor, HortWeek	QQ 76–82
*	Clare Mike, Director of Business Development, LEAF (Linking Environment and Farming)	QQ 76–82
*	Ali Capper, Partner, Stocks Farm	QQ 83–92
**	Jack Ward, CEO, British Growers Association	QQ 83–92
*	Mike Norris, Director, Newey Group; and Member, West Sussex Growers' Association	QQ 83–92

*	Boyd Douglas-Davies, Director, British Garden Centres	<u>QQ 93–99</u>
*	Jo Lambell, Founder, Beards & Daisies	<u>QQ 93–99</u>
**	George Hillier, Director of Property, Hillier Nurseries	<u>QQ 93–99</u>
*	Caroline Robinson, Human Rights Consultant	<u>QQ 100–112</u>
*	Adis Sehic, Policy and Research Officer, Work Rights Centre	<u>QQ 100–112</u>
**	Kate Roberts, Head of Policy, Focus on Labour Exploitation (FLEX)	<u>QQ 100–112</u>
*	Suzanne McCarthy, Board Member, Gangmaster and Labour Abuse Authority	<u>QQ 113–126</u>
*	David Neal, Independent Chief Inspector of Borders and Immigration	<u>QQ 113–126</u>
*	Margaret Beels, Director of Labour Market Enforcement, Office of the Director of Labour Market Enforcement	<u>QQ 113–126</u>
**	Lilidh Matthews, Treasurer, Young People in Horticulture Association	<u>QQ 127–133</u>
*	Tayshan Hayden-Smith, Founder, Grow2Know	<u>QQ 127–133</u>
*	Lee Connelly, The Skinny Jean Gardener	<u>QQ 127–133</u>
*	Emma Birkbeck, Founding member, Women in Horticulture	<u>QQ 134–139</u>
*	Kathryn Rossiter, CEO, Thrive	<u>QQ 134–139</u>
**	Dr Mark Else, Head of Crop Science and Production Systems, National Institute for Agricultural Botany (NIAB)	<u>QQ 140–158</u>
*	Samuel Larsen, Director of Programmes, Water UK	<u>QQ 140–158</u>
*	Richard Thompson, Deputy Director of Water Management and Investment, Environment Agency	<u>QQ 140–158</u>
**	Professor Alastair Griffiths, Director of Science and Collections, RHS	<u>QQ 159–172</u>
*	Dr Lee Beniston, Associate Director of Industry Partnerships & Collaborative R&D, Biotechnology and Biological Sciences Research Council (BBSRC)	<u>QQ 159–172</u>
**	Steph Wetherell, Coordinator, Bristol Food Producers	<u>QQ 173–190</u>
*	Dr Jill Edmondson, Senior Lecturer, University of Sheffield	<u>QQ 173–190</u>
*	Dr Deborah Burn, Research and Development Officer, The National Allotment Society	<u>QQ 173–190</u>
*	Wayne Grills, Chief Executive, British Association of Landscape Industries (BALI)	<u>QQ 191–201</u>

*	Judy Ling Wong CBE, Honorary President, Black Environment Network	<u>QQ 191–201</u>
*	Patricia Wallace, Northern Ireland Manager, Social Farms and Gardens	<u>QQ 191–201</u>
*	Emiliano Mellino, Journalist, Bureau of Investigative Journalism	<u>QQ 202–210</u>
*	Vadim Sardov	<u>QQ 202–210</u>
*	Andrey Okhrimenko	<u>QQ 202–210</u>
*	Sybil Msezane	<u>QQ 202–210</u>
**	Dave Solly, National Lead for Natural Environment, National Academy for Social Prescribing	<u>QQ 211–217</u>
**	Professor David Rose, Visiting Fellow, Royal Agricultural University	<u>QQ 211–217</u>
*	Annabelle Padwick, Founder, Life at No.27	<u>QQ 211–217</u>
**	Ben Raskin, Head of Horticulture and Agroforestry, Soil Association	<u>QQ 218–228</u>
*	Ben Malin, Company Director, EJ Godwin	<u>QQ 218–228</u>
*	Sandy Shepherd, Managing Director, Ball Colegrave	<u>QQ 229–236</u>
*	Nigel Jenney, Chief Executive, Fresh Produce Consortium	<u>QQ 229–236</u>
**	Jennifer Pheasey, Director of Public Affairs, HTA	<u>QQ 229–236</u>
*	James Mallick, Compliance and Implementation Director, Pro-Force	<u>QQ 237–247</u>
*	Justin Emery, Director, Fruitful Jobs	<u>QQ 237–247</u>
*	Simon Bowyer, Chief Executive Officer, Concordia	<u>QQ 237–247</u>
*	Dominic Morrey, Commercial Director for Fresh Food and Commodities, Tesco	<u>QQ 248–261</u>
*	Mark White, Groceries Code Adjudicator	<u>QQ 262–271</u>
	Mark Spencer MP, Minister for Food, Farming and Fisheries, Defra	<u>QQ 272–287</u>
	Tim Mordan, Deputy Director of Innovation, Productivity and Science, Defra	<u>QQ 1–20</u> <u>QQ 272–287</u>
	Danny Roff, Deputy Director for Food Security and Coordination, Defra	<u>QQ 273–287</u>

Alphabetical list of witnesses

Agricultural Industries Confederation	<u>HSI0044</u>
All-Party Parliamentary Gardening and Horticulture Group	<u>HSI0041</u>
Aspire Community Works Community Interest Company	<u>HSI0052</u>

	Association of Labour Providers (ALP)	HSI0037
	Andrew Baldwin, Chief, Price and Volume Measures Consultants	HSI0003
*	Sandy Shepherd, Managing Director, Ball Colegrave (QQ 229–236)	
	Johanna Barton, Garden Designer, Polkadot Wellies Gardening Services	HSI0069
*	Jo Lambell, Founder, Beards & Daisies (QQ 93–99)	
*	Dr Lee Beniston, Associate Director of Industry Partnerships & Collaborative R&D, Biotechnology and Biological Sciences Research Council (BBSRC) (QQ 159–172)	
*	Judy Ling Wong CBE, Honorary President, Black Environment Network (QQ 191–201)	
**	Steph Wetherell, Coordinator, Bristol Food Producers (QQ 173–190)	HSI0027
	Bristol Food Producers, Capital Growth, Food Cardiff, Fringe Farming, Glasgow Community Food Network, Glasgow Community Food Network, Landworkers' Alliance, Regather, Shared Assets and Sustain	HSI0027
	British Apples and Pears Ltd	HSI0063
*	Wayne Grills, Chief Executive, British Association of Landscape Industries (BALI) (QQ 191–201)	
	British Berry Growers Ltd	HSI0054
*	Boyd Douglas-Davies, Director, British Garden Centres (QQ 93–99)	
**	British Growers Association (QQ 83–92)	HSI0071
**	Jack Ward, CEO, British Growers Association (QQ 83–92)	
	British Independent Fruit Growers' Association	HSI0016
	Buglife - The Invertebrate Conservation Trust	HSI0045
	Jim Carter	HSI0092
	Professor Rebecca Cassidy, Professor of Anthropology, Goldsmiths, University of London	HSI0025
	Ceres Agritech Partnership, Cambridge Enterprise Ltd	HSI0036
	A Charrington, Fruit Grower, Charrington Fruit Farms	HSI0067
	The Chartered Institute of Horticulture	HSI0026
*	Professor Tim Benton, Research Director, Chatham House (QQ 69–75)	
	Chester Zoo	HSI0086
	CIOPORA	HSI0009

- * The Rt Hon. the Lord Deben, Chair, Climate Change Committee
([QQ 69–75](#))
Colegrave Seabrook Foundation [HSI0001](#)
- * Simon Bowyer, Chief Executive Officer, Concordia
([QQ 237–247](#))
- * Lee Connelly, The Skinny Jean Gardener ([QQ 127–133](#))
Cranfield University [HSI0018](#)
CSA Network UK [HSI0070](#)
D. J. Squire & Co., Limited trading as Squires Garden Centres [HSI0020](#)
The Defence Gardens Scheme Community Interest Company [HSI0015](#)
Dejex Supplies Ltd [HSI0017](#)
- ** Department for Environment Food and Rural Affairs (Defra) ([QQ 1–20](#)) [HSI0087](#)
- ** Tessa Jones, Director of Agri-Food Chain, Defra ([QQ 1–20](#))
- ** Gill Laishley, Deputy Director of Farming and Primary Processing, Defra ([QQ 1–20](#))
- ** Tim Mordan, Deputy Director of Innovation, Productivity and Science, Defra ([QQ 1–20](#) and [QQ 272–287](#))
- ** Danny Roff, Deputy Director for Food Security and Coordination, Defra ([QQ 273–287](#))
Professor Geoffrey Dixon [HSI0075](#)
- * Dr Jill Edmondson, Senior Lecturer, University of Sheffield ([QQ 173–190](#))
- * Ben Malin, Company Director, EJ Godwin ([QQ 218–228](#))
Elsoms Seeds Ltd [HSI0010](#)
Martin Emmett [HSI0089](#)
- * Richard Thompson, Deputy Director of Water Management and Investment, Environment Agency ([QQ 140–158](#))
Environmental Horticulture Group [HSI0042](#)
Evergreen Garden Care UK Ltd [HSI0066](#)
- ** Focus on Labour Exploitation (FLEX) ([QQ 100–112](#)) [HSI0034](#)
- ** Kate Roberts, Head of Policy, FLEX ([QQ 100–112](#))
The Food Foundation [HSI0035](#)

- * Nigel Jenney, Chief Executive, Fresh Produce Consortium ([QQ 229–236](#))
Fruit and Vegetable Alliance [HSI0061](#)
- * Justin Emery, Director, Fruitful Jobs ([QQ 237–247](#))
G’s Growers Ltd, Speciality Produce Ltd and Angus Growers Ltd [HSI0072](#)
- * Suzanne McCarthy, Board Member, Gangmaster and Labour Abuse Authority ([QQ 113–126](#))
Garden Centre Association [HSI0077](#)
- * Mark White, Groceries Code Adjudicator ([QQ 262–271](#))
Mr John Hall, Director, John Hall Consulting Ltd. [HSI0028](#)
Hall Hunter Partnership [HSI0023](#)
- * Tayshan Hayden-Smith, Founder, Grow2Know ([QQ 127–133](#))
- ** Hillier Nurseries ([QQ 93–99](#)) [HSI0038](#)
- ** George Hillier, Director of Property, Hillier Nurseries ([QQ 93–99](#))
Historic Houses [HSI0046](#)
Historic Royal Palaces [HSI0074](#)
HL Hutchinson Ltd [HSI0055](#)
- ** The Horticultural Trades Association (HTA) ([QQ 21–40](#)) and ([QQ 229–236](#)) [HSI0053](#)
- ** James Barnes, Chair, Horticultural Trades Association (HTA) ([QQ 21–40](#)) [HSI0053](#)
- ** Jennifer Pheasey, Director of Public Affairs, HTA ([QQ 229–236](#)) [HSI0053](#)
- * Matthew Appleby, Editor, HortWeek ([QQ 76–82](#))
- * David Neal, Independent Chief Inspector of Borders and Immigration ([QQ 113–126](#))
- ** The Institute for Agriculture & Horticulture (TIAH) ([QQ 41–53](#)) [HSI0033](#)
- ** Janet Swadling, Chief Executive, TIAH ([QQ 41–53](#)) [HSI0033](#)
Institution of Agricultural Engineers [HSI0048](#)
Intelligent Growth Solutions [HSI0059](#)
Klondyke Group Ltd [HSI0024](#)
Mr David Knight, Partner, DJ & VL Knight & Partners [HSI0005](#)
- * Alex Payne, Chief Executive, Landex ([QQ 54–68](#))
Landseer Ltd [HSI0011](#)

- * Clare Mike, Director of Business Development, LEAF
(Linking Environment and Farming) ([QQ 76–82](#))
- * Annabelle Padwick, Founder, Life at No.27 ([QQ 211–217](#))
 - Aoife Maher, PhD Researcher, University of Exeter [HSI0064](#)
 - Marks & Spencer [HSI0088](#)
 - Miss Rosalie Maunder, Project Intern, Khepera CIC and Empower to Cook CIC [HSI0006](#)
 - Clark McAllister, Researcher, Open University [HSI0095](#)
 - Dr Ian Mell, Reader in Environmental & Landscape Planning, University of Manchester [HSI0091](#)
- * Emiliano Mellino, Journalist, Bureau of Investigative Journalism
([QQ 202–210](#))
- * Sybil Msezane ([QQ 202–210](#))
 - Professor Richard Napier, University of Warwick; Professor Rosemary Collier, University of Warwick, and Mr Alex Kelly, Research Officer, Warwick Crop Centre [HSI0012](#)
- ** Dave Solly, National Lead for Natural Environment, National Academy for Social Prescribing ([QQ 211–217](#)) [HSI0096](#)
- * Dr Deborah Burn, Research and Development Officer, The National Allotment Society ([QQ 173–190](#))
- ** National Farmers Union (NFU) ([QQ 21–40](#)) [HSI0029](#)
- ** Minette Batters, President, NFU ([QQ 21–40](#))
 - National Farmers Unions Scotland [HSI0013](#)
 - National Garden Scheme [HSI0082](#)
- ** National Institute for Agricultural Botany (NIAB) ([QQ 140–158](#)) [HSI0058](#)
- ** Dr Mark Else, Head of Crop Science and Production Systems, NIAB ([QQ 140–158](#)) [HSI0058](#)
 - National Trust [HSI0049](#)
 - Neal’s Yard Remedies [HSI0081](#)
 - New Leaf Plants Ltd [HSI0022](#)
- * Margaret Beels, Director of Labour Market Enforcement, Office of the Director of Labour Market Enforcement ([QQ 113–126](#))
- * Andrey Okhrimenko ([QQ 202–210](#))
 - Oxford Climate Alumni Network Sustainable Food and Farming Working Group [HSI0056](#)
 - Professor Simon Pearson, Director, Lincoln Institute of Agri-Food Technology, The University of Lincoln [HSI0060](#)

- Maryna Kuzmenko, Chief Executive Officer, Petiole [HSI0084](#)
- Dr Hannah Pitt, Lecturer in Environmental Geography, Cardiff University, and Dr Lydia Medland, Senior Research Associate, University of Bristol [HSI0039](#)
- Plant Health Alliance [HSI0094](#)
- Plant Heritage [HSI0021](#)
- Plantlife [HSI0051](#)
- * James Mallick, Compliance and Implementation Director, Pro-Force ([QQ 237–247](#))
- * Caroline Robinson, Human Rights Consultant ([QQ 100–112](#))
- Professor David Rose, Professor of Sustainable Agricultural Systems, Cranfield University, and Kirsten Ayris, PhD student, University of Reading [HSI0004](#)
- ** Professor David Rose, Visiting Fellow, Royal Agricultural University ([QQ 211–217](#)) [HSI0004](#)
- Royal Botanic Garden Edinburgh [HSI0031](#)
- ** Royal Botanic Gardens Kew ([QQ 54–68](#)) [HSI0090](#)
- Martin Staniforth, Practical Training Manager, Royal Botanic Gardens Kew [HSI0008](#)
- ** Royal Horticulture Society (RHS) ([QQ 21–40](#)) and ([QQ 159–172](#)) [HSI0050](#)
- ** Clare Matterson, Director General, RHS ([QQ 21–40](#)) [HSI0050](#)
- ** Professor Alastair Griffiths, Director of Science and Collections, RHS ([QQ 159–172](#)) [HSI0050](#)
- * Vadim Sardov ([QQ 202–210](#))
- Dr Sam Scott, Senior Lecturer, Geography, University of Gloucestershire, and Professor Karen O’Reilly, Emeritus Professor, Sociology, Loughborough University [HSI0002](#)
- Jonathan Sheppard, Amateur Gardener; and Adam Frost, Award Winning Garden designer and BBC Gardeners World host, Adam Frost Design [HSI0043](#)
- * John Shropshire, Chair, Independent Review into Labour Shortages in the Food Supply Chain ([QQ 41–53](#))
- * Patricia Wallace, Northern Ireland Manager, Social Farms and Gardens ([QQ 191–201](#))
- Society of Chemical Industry Horticulture Group [HSI0057](#)
- ** Soil Association ([QQ 218–228](#)) [HSI0040](#)
- ** Ben Raskin, Head of Horticulture and Agroforestry, Soil Association ([QQ 218–228](#))

- * Mark Spencer MP, Minister for Food, Farming and Fisheries, DEFRA ([QQ 272–287](#))
- * Ali Capper, Partner, Stocks Farm ([QQ 83–92](#))
 - Richard Stogdon [HSI0078](#)
 - Sustain [HSI0030](#)
 - Sustainable Food Places [HSI0047](#)
 - Dr RGJ Telfer CBE [HSI0073](#)
 - Alan Titchmarsh MBE VMH DL [HSI0093](#)
- * Dominic Morrey, Commercial Director for Fresh Food and Commodities, Tesco ([QQ 248–261](#))
- * Dr Chris Thorogood, Deputy Director of Oxford Botanic Garden and Arboretum, Oxford University ([QQ 69–75](#))
- * Kathryn Rossiter, CEO, Thrive ([QQ 134–139](#))
 - Veg Power [HSI0007](#)
 - Walworth Garden [HSI0083](#)
- * Samuel Larsen, Director of Programmes, Water UK ([QQ 140–158](#))
 - WB Chambers Farms Limited [HSI0080](#)
- ** West Sussex Growers' Association ([QQ 83–92](#)) [HSI0062](#)
- * Mike Norris, Director, Newey Group; and Member, West Sussex Growers' Association ([QQ 83–92](#))
 - Mrs Teresa Wickham, Partner, RH & TM Wickham [HSI0065](#)
 - Wildflower Turf Ltd [HSI0014](#)
 - The Wildlife Trusts [HSI0085](#)
- * Emma Birkbeck, Founding member, Women in Horticulture ([QQ 134–139](#))
 - Tammy Woodhouse [HSI0079](#)
 - The Woodland Trust [HSI0019](#)
- * Adis Sehic, Policy and Research Officer, Work Rights Centre ([QQ 100–112](#))
- ** Young People in Horticulture Association (YPHA) ([QQ 127–133](#)) [HSI0068](#)
- ** Lilidh Matthews, Treasurer, YPHA ([QQ 127–133](#)) [HSI0068](#)

APPENDIX 3: CALL FOR EVIDENCE

Aim of the inquiry

The House of Lords Committee on the Horticultural Sector was appointed in January 2023. It is chaired by Lord Rupert Redesdale and will report by 30 November 2023.

Horticulture is a branch of agriculture that relates to the production, cultivation and management of edible fruits and vegetables, and ornamental plants. The horticultural sector is worth billions to the UK economy and supports hundreds of thousands of jobs, including seasonal workers from overseas. It is also a significant contributor to UK food security and UK tourism.

This inquiry will consider the challenges faced by the horticultural sector in England, including scrutiny of the Government's forthcoming Horticulture Strategy for England. It will assess how rising input costs and labour and skills shortages are impacting the sector, and how innovative technologies might address these issues and other pressing challenges such as the impact of climate change on productivity and food supply. In addition, it will explore how policy can support the sector in meeting the Government's ambitions for levelling up and post-Brexit trade policy.

This is a public call for written evidence to be submitted to the Committee. The deadline is 6pm on 10 April 2023.

The Committee is keen to hear from a diverse range of individuals and organisations. In particular, if you work with young people or seasonal workers, we would be grateful if you are able to share this call for evidence with them. To ensure the voice of those working in the sector is central to our inquiry, the Committee is planning to engage directly with those willing to share their views and experiences later in the year.

Questions

The Committee is seeking written submissions addressing any or all of the following topics in relation to the horticultural sector in England:

- Key challenges, risks, and opportunities facing the sector
- The impact of climate change on the sector, and how it can be mitigated
- Skills and recruitment challenges, particularly in relation to skilled jobs
- The availability of funding for science, research and development to enable innovation
- Benefits and challenges of implementing technological developments, particularly those that help combat climate change and its effects
- Resources and guidance available to organisations within the sector to i) implement new technology; ii) reduce their environmental impact
- The impact of trade on i) UK businesses ii) the environment and iii) bio- and phytosanitary issues
- Lessons learned from horticultural policy and practice from overseas, or from the devolved administrations

- The effectiveness of Government planning and policymaking in relation to horticulture
- The impact of recent legislation on the sector, including the Agriculture Act 2020 and the Environment Act 2021
- Horticulture's contribution to mental and physical health

APPENDIX 4: NOTE ON THE COMMITTEE'S VISIT TO THE CHELSEA FLOWER SHOW

On Tuesday 23 May 2023, the Committee visited the Chelsea Flower Show at the invitation of the Royal Horticultural Society (RHS). Members in attendance were:

- Lord Redesdale
- Baroness Buscombe
- Lord Carter of Coles
- Lord Colgrain
- Lord Curry of Kirkharle
- Baroness Fookes
- Baroness Willis of Summertown
- Lord Watson of Wyre Forest.

Members attended a breakfast reception where they heard speeches from Claire Matterson, RHS Director General, and Boyd Douglas-Davies, Chair of the Environmental Horticulture Group (then the Ornamental Horticulture Roundtable Group), and fellow EHG committee chairs.

The Committee given a guided tour of the showground including the show gardens and great pavilions.

APPENDIX 5: NOTE ON THE COMMITTEE'S VISIT TO EAST MALLING AND HADLOW, KENT

On Tuesday 13th June 2023, members visited Growing Kent and Medway (GKM), a UKRI funded project at East Malling Research Centre, and Hadlow College, Kent. Members in attendance were:

- Lord Redesdale
- Lord Carter of Coles
- Lord Colgrain
- Lord Curry of Kirkharle
- Baroness Jones of Whitchurch
- Baroness Fookes.

Growing Kent and Medway

Growing Kent and Medway (GKM) is funded by the UKRI's Strength in Places Fund (SIPF). It aims to support innovation-led regional growth in climate-smart food production and processing. GKM received £18 million through the programme, led by NIAB EMR (the National Institute for Agricultural Botany and East Malling Research).

Members met:

- Dr Nikki Harrison, Director, GKM
- Dr Mark Else, Head of Crop Science, NIAB
- Richard Harnden, Research Director, Berry Gardens
- Robert James, Technical Director, Thanet Earth.

The Committee was given a tour of the facility including high-tech glasshouses, the Water Efficient Technologies (WET) centre, polytunnels for soft fruit growing, and a vineyard.

Members were told about a range of issues facing GKM, including the following:

- A decline in staff numbers at the facility including research staff, who spend a significant proportion of their time drafting R&D proposals, which are costly;
- High costs of inputs and labour to keep the facility running;
- A lack of core funding for research institutions and a complex R&D landscape including a focus on competition funding rather than more sustainable models with a focus on horticulture;
- The strengths of the UKRI Strength in Places Fund and its regional and collaborative model;
- The need for better collaboration across the sector to make progress on solving shared problems;
- Issues relating to the demise of AHDB Horticulture, in particular the vacuum left in R&D funding, their encouragement for collaboration, and proactive approach to biosecurity;

- The range of new opportunities provided by new technologies to solve horticultural challenges and the barriers to implementing these at scale such as limited tech-knowledge transfer;
- The possible role of the UK in exporting technological knowledge overseas.

Hadlow College

Hadlow is Kent's only rural and land-based college. The college has farms including arable crops, glasshouses, fruit production, and Broadview gardens. It offers full-time, apprenticeship and undergraduate courses. Hadlow has over 1,200 full time students studying up to Level 3 (Extended Diploma) and over 600 higher education students studying up to Level 6. It has 50 full-time Horticulture students. Horticulture courses cover glasshouse production, fruit and vegetables, viticulture, greenkeeping and ornamental production, and there are also courses on Gardening, Agricultural Engineering and Floristry.

Members met:

- Chris Lydon, Vice Principal, Curriculum,
- Dan Cotton, Assistant Principal, Curriculum
- Alan Harvey, Head of Curriculum, Horticulture
- Eileen Swan, Director of Quality Enhancement at Landex.

The Committee was given a tour of the college's facilities including a glasshouse, nursery, Japanese strolling garden, and concept orchard and vineyard. Members heard about the challenges facing land-based colleges delivering horticultural courses. This included:

- Challenges obtaining adequate funding to run a land-based college, especially in the context of higher operational costs at present and attracting fewer students than at other FE places of learning;
- Issues recruiting and retaining high-quality staff;
- Challenges developing apprenticeship standards within a slow and unresponsive process;
- Barriers to delivering T Levels including uncertainty and the defunding of other qualifications, the inability to use college facilities to deliver the work placement element, the length of the placement, the binary choice between ornamentals and edibles, and lack of communication from the DfE;
- Challenges delivering work experience in rural and SME-dense locations;
- Common misconceptions associated with the term 'horticulture';
- A lack of careers guidance, particularly at KS3 and KS4 level and the related poor image of horticulture as an unattractive career choice;
- A perceived lack of access to horticultural careers for young people from families that do not own land;
- Barriers to delivering upskilling for adults despite demand due to high course costs.

APPENDIX 6: NOTE ON THE COMMITTEE'S VISIT TO THE NETHERLANDS

Between Tuesday 27th June and Wednesday 28th June 2023, the Committee visited the Netherlands. Members in attendance were:

- Lord Redesdale
- Lord Carter of Coles
- Baroness Jones of Whitchurch
- Baroness Fookes
- Baroness Walmsley
- Baroness Buscombe.

World Horti Center

The World Horti Center is a knowledge and innovation centre for international greenhouse horticulture, bringing together 38 cultivation departments, 120 companies and an education centre with 1,200 students aged 14-18. It is based in Naaldwijk. Members were given a tour by horticultural expert Aad Verduijn.

Members heard about several different aspects of the horticultural sector in the Netherlands and gathered evidence on a range of best-practice methods, including the following:

- The value of horticultural trade for the Netherlands as a key export;
- The increasing role of geothermal energy for Dutch growers and the cessation of natural gas extraction;
- Innovations in light using LED and HPS lights to reduce energy and heat emissions and to adapt the growing environment;
- The use of technologies such as vertical and indoor farming, drones and robotics at various stages of the horticultural process including in pest surveillance, pollination, cleaning and harvesting;
- The role of indoor farms in reducing water use as well as other water innovations such as the use of high-pressure fan systems to cool the air via misting.

Ministry of Agriculture, Nature and Food Quality (LNV)

The Ministerie van Landbouw, Natuur en Voedselkwaliteit (LNV) is responsible for agricultural policy, food, forestry and natural conservation. Committee members heard from:

- Maita Latijnhouwers, Senior Policy Advisor, Strategy, Knowledge and Innovation (SKI)
- Peter Reffeltrath, Senior Policy Officer, Energy Transition & Greenhouse Horticulture.

Members heard about the Agricultural Knowledge and Innovation System (AKIS) and the network of groups involved in the R&D and innovation landscape. Various other issues were explored, including:

- The role of Topsectors, a strategic framework to promote priority industries, of which horticulture is one;

- The value of the ‘triple helix’ model, a collaborative approach to innovation between academia, industry and the Government;
- The role of Government-led mission-driven innovation focussed on 25 missions across four societal challenge areas (Health and care, Agriculture, water and food; Energy transition and sustainability; and Safety);
- The use of Knowledge and Innovation Agendas (KIAs) to achieve missions by Top Sectors, and the focus on increasing societal and regional engagement and public-private partnerships within the new KIA for 2024–27;
- The value of the National Growth Fund, a long-term investment fund with a focus on R&D and innovation, endowed with a total of €20 billion to be allocated up to 2026;
- The value of Horizon Europe for Dutch growers;
- The role of Greenports, clusters of horticulture innovation and activity designated by the Government;
- Challenges related to recruiting and retaining skills and labour, and the work of the Groenpact, a scheme by which the Government is trying to address the skills gap by strengthening and renewing the Dutch knowledge and innovation system in green sectors;
- Challenges linked to energy transition towards a goal for the agricultural and horticultural sectors to be climate neutral by 2050 and for the horticultural sector to halve its CO₂ emissions compared to 2019 by 2030;
- The role of the Energy Transition Pact in moving away from natural gas towards geothermal energy and other renewables, and the Kas als Energiebron (Greenhouse as a Source of Energy) programme intended to reduce greenhouse horticulture CO₂ emissions by 2-3 per cent per year;
- Promotion of water-saving methods such as rainwater harvesting, recycling water, and emptying reservoirs before storms to avoid overflows;
- Challenging relationships between growers and large retailers and the role of cooperatives in organising for the sector.

Wageningen University and Research Centre

Wageningen University and Research Center is focussed on fundamental horticultural discovery work and application. It is based in several locations across the Netherlands.

The visit was led by Dr Richard Harrison, MD, Plant Sciences Group. Members also met:

- Ir. Chris de Visser–BU Manager Field Crops
- Ir. Marianne Groot - Manager research group Nursery stock & Fruits
- Ir. Peter Frans de Jong - Scientific researcher Precision Farming Fruit
- Tim Verhoeven - Student WUR
- Dr Eva Ketel–Scientific Researcher Crop Physiology
- Ir Eelke Westra - Programme manager Postharvest Quality, WFBR
- Dr Monique van Wordragen - BU Manager Greenhouse Horticulture & Flower Bulbs.

Randwijk

At the Randwijk site, members heard about near-market, applied fruit research in collaboration with industry. Research topics include sustainable and innovative fruit production, variety testing, plant health, pests and diseases, soil health, efficient water use, and quality in the supply chain.

- On a tour of the Experimental Gardens, members were told about a project to explore chemical-free fungicides including the use of automated canopies and the importance of data collection;
- Members heard about the importance of grower collaboration including industry open days, networking events and knowledge transfer;
- The Committee were shown a 2D model of growing apple trees that supports the utilisation of robots to pick and prune without obstructions;
- Members heard about the OnePlanet project to recreate human tasks using robots; members were able to test the VR system used to train the robot to pick and prune and heard about barriers to this technology reaching market including costs and earning models.

Wageningen main campus

At the main campus in Wageningen, members were given a tour of the facilities and shown various new technologies for application to the horticultural supply chain. This included:

- Use of climate cells to control lighting using filters and colours to grow plants under hydroponic conditions and monitor their morphology;
- Use of the Government and university-funded Netherlands Planet Eco Phenotyping Centre (NPEC) in collaboration with Utrecht University to test plants for abiotic stress and drought tolerance using 3D imaging cameras to measure how different plant species react to light treatments;
- Utilisation of post-harvest technology such as imaging boxes equipped with cameras to check quality, freshness and shelf life, and analyse how consumers perceive changes in edible and ornamental produce;
- Recreating different climatic conditions in post-harvest settings to mimic temperatures experienced by produce grown overseas as part of a smart agri-logistics chain;
- New approaches to reducing energy use in fridge containers by focussing on innovative and targeted temperature changes;
- The role of consumer education, particularly of young people, on healthy eating and waste;
- The role of the ‘Dutch diamond’ model, which utilises the ‘triple helix’ and adds a fourth pillar including society, with an emphasis on integration and collaboration throughout project lifecycles and the role of public-private collaboration as key.

APPENDIX 7: NOTE ON THE COMMITTEE'S VISIT TO SANDWICH AND THANET, KENT

On Wednesday 20th September 2023, the Committee visited GrowUp Farms and Thanet Earth in Kent. Members in attendance were:

- Lord Redesdale
- Baroness Fookes
- Lord Carter of Coles
- Lord Colgrain
- Baroness Walmsley.

GrowUp Farms

GrowUp Farms in Sandwich, Kent stands at 18 metres tall.⁹³⁶ It has received more than £100 million in investment and grows green crispy lettuce and frilly lettuce leaves, red frilly lettuce, and rocket leaves. The farm set out to reduce reliance on overseas imports of bagged salads. It uses renewable heating and cooling for most of its energy requirements.⁹³⁷

Members met:

- Kate Hofman, Founder and Chief Brand Officer
- Marcus Whately, CEO
- Ben Logan, Head of Farm Operations.

We heard:

- Up to 70 per cent of UK salads are imported, some are shipped over 1,000 miles and washed up to seven times in chlorine.
- Vertical farming can use 94 per cent less water, create 93 per cent less carbon dioxide emissions and save 3.9 million food miles per year per farm.
- It is difficult to make vertical farming economically viable at scale: this requires a combination of solutions to energy, yield, operational expenditure, and safety.
- GrowUp told us that under the ELMS sustainable farming incentive, farmers are paid to deliver under the Government's 25-year Environment Plan. They suggested that by using less water, less nitrogen, producing less waste, no agricultural runoff, and using no pesticides, vertical farming could help England meet these goals more quickly.
- Building vertical farms on industrial land would also create new tracts of grade 1 farmland, creating space for wildlife.
- However, vertical farms struggle to access government support, including ELMS and on energy pricing. Vertical farm planning should consider where there are opportunities to use waste heat from other industries.

936 See 'Farmers swap fields for high-rises', *The Times* (29 August 2023): <https://www.thetimes.co.uk/article/farmers-swap-fields-for-high-rises-hd8vszfm1> [accessed 23 October 2023]

937 See GrowUpfarms, 'Growing better for all': <https://growupfarms.co.uk/> [accessed 23 October 2023]

Thanet Earth

Thanet Earth is a large greenhouse complex. The site grows tomatoes, peppers, cucumbers and other trial varieties in partnership with Hadlow College, Kent. It grows produce in glasshouses using hydroponic methods and each glasshouse is also a power station using Combined Heat and Power (CHP) generators. The site is around 85 per cent self-sufficient for water. Bumblebees are introduced to pollinate tomatoes, and the farm operates ‘predator control’ and introduces ‘good’ insects to reduce pests.⁹³⁸

Members met:

- Rob James–Technical Director
- Tim Jennings–Head of Operations
- Pleun van Malkenhorst–Managing Director–Rainbow UK.

We heard:

- There are skill shortages at various levels, made worse by the impact of EU Exit and reliance on the seasonal workers scheme. Greenhouse work is highly skilled and it takes time to train staff to perform at optimal levels. Extending the term of the seasonal worker scheme would mean Thanet Earth would need fewer people over the season, and they would happily pay the NHS surcharge for staff that work beyond 6 months.
- Biodiversity Net Gain is a significant issue for greenhouse growers as it reduces available land for building and adds cost making UK businesses less competitive than their northern European competitors. However, greenhouse growers can be creative and make a positive impact on biodiversity without committing large areas of land.
- There is little opportunity for automation roll out in greenhouse operations due to the complexity of tasks for the foreseeable future. Automation in packhouses is happening but cost and the volatility of commercial relationships and packaging formats creates risk.
- Thanet Earth use large amounts of energy and generate it using a gas CHP. This is an efficient process which uses heat and carbon dioxide while the majority of electricity is transferred to the grid. Alternatives are being considered but the availability of supplementary carbon dioxide is a must and cost, scale, and risk of early adoption is a potential barrier.
- Water use is already highly controlled and efficient but overall resilience and abstraction licence reform is a concern that may also limit growth plans.

938 See Thanet Earth, <https://www.thanetearth.com/> See Thanet Earth, ‘About us’: <https://www.thanetearth.com/> [accessed 23 October 2023].

APPENDIX 8: NOTE ON THE COMMITTEE'S PRIVATE MEETING WITH ASDA, MORRISONS AND WAITROSE

On Thursday 27 April, the Committee held a private meeting with representatives from Asda, Morrisons and Waitrose.

In attendance from the Committee was:

- Lord Redesdale
- Earl of Arran
- Lord Carter of Coles
- Lord Colgrain
- Lord Curry of Kirkharle
- Baroness Fookes
- Baroness Willis of Summertown.

In attendance from the supermarkets was:

- Chris Brown, Senior Director for Sustainable Supply Chains, Asda
- Stephanie Chafor, Head of Category for Fresh Produce, Horticulture, and Food to Go, Waitrose
- Damon Johnson, Head of Technical Produce, Morrisons.

Trends, key challenges, risks, and opportunities

The Committee heard that there is a key trend towards consumers making 'trade down' decisions and choosing entry level, essentials, or own brand products as an increasing percentage of their spend. The number of items per basket is dropping, and consumers are choosing products with a longer shelf-life: this includes choosing frozen over fresh produce and pasta or rice rather than potatoes because of their cupboard life.

One supermarket representative told us that they have long-term relationships with their suppliers and do not spot-buy, but there are "people not in this room who do it differently". However, if growers cannot plant, for example if input costs are too high, they will use global sourcing.

We heard that restrictions on the number of a specific item per basket (e.g. two cartons of eggs) came in because of rocketing prices on the wholesale market.

Representatives from the supermarkets were open-minded about the usefulness about technology but said it was a long way off: "it's skilled labour, replicating it through robotics is not easy". One challenge was research communities' timelines, in which a short research project is three years. There were difficulties perceived in pulling research together and joining it up with government thinking.

Trade and food security

Weather volatility was perceived as a challenge to UK sourcing, when a hailstorm can wipe out an entire harvest.

There are some categories where UK sourcing will never be possible, for example bananas, citrus or grapes.

It was felt that customers want to buy British, but they do not know where their produce comes from. Some supermarkets try make this easier for customers through labelling.

One representative told us that supermarkets do not profit from peaks and troughs in pricing, and that if prices go up when there is a shortage, it is because supermarkets must pass on their costs. We heard it was “about staying viable not profiteering”.

Relationships with suppliers

Seasonal labour in horticulture was described as “cold, wet, seasonal, open to the elements” and a “hard and demanding job”. When asked about reports of labour abuse, one representative said that they “have not witnessed bad practice”.

It was felt that getting a new batch of seasonal workers in every season and training them up was inefficient.

We heard that supermarkets are doing more to work with producers and suppliers to sell the crop that they have committed to take, including by the introduction of cheaper brands to sell fruit and vegetables that do not meet specifications.

Relationship with Government

Representatives from the supermarkets were positive about the Food Resilience Industry Forum but noted that it was driven by a crisis and said that food security conversations tend to parallel food price spikes. They argued that there was a need for a longer-term focus.

Environmental sustainability

We heard that the industry is concerned about environmental sustainability but that there “is not an understanding that we are making fundamental business decisions on that basis”.

Growers and supermarkets would like a uniform way of measuring environmental impact and carbon emissions, where now there are many ways of measuring the same information.

It was noted that there are trade-offs to be made in this area. For example, in the poultry sector, caged eggs have lower carbon emissions than free range.

It was felt that growers are cognisant of problems with water resources.