

Plant Health and Biosecurity:

THE LANDSCAPE CONSULTANT'S TOOLKIT

**This guidance helps practitioners
apply biosecurity principles to their work**

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1

Introduction

Plant pests and diseases, (P&D) are a normal characteristic of the environment and within their natural range, pathogens tend to exist in equilibrium with their hosts, with 'normal' control measures (such as host resilience, natural predators or environmental restrictions) limiting their spread. Indeed, at a landscape scale, some pests and diseases can be beneficial, especially in terms of habitat creation and the carbon cycle.

However, the more recent spate of 'exotic' pests and diseases include P&D which have suddenly been discovered or introduced into areas where they have few natural control measures or predators (Chalara dieback of ash, Oak Processionary Moth, sweet chestnut blight and Massaria disease of plane trees being some of the most recently publicised). Others, including strains of Phytophthora which affect larch, juniper, oak, beech, cypress, sweet chestnut, alder etc appear to be the result of genetic mutation or hybridisation of existing pathogens. These new P&D have economic, social and environmental impacts that need to be managed, often with limited resources. The impact from P&D can be expected to impact both the work we undertake as Landscape Consultants and impact the wider urban/rural landscape. We are still living with the consequences of Dutch Elm disease some 30 years on. There has been a significant increase in the number of interceptions and finding of plant pests and diseases due to number of contributing factors including the greater globalisation of trade, the impact of climate change and greater surveillance for harmful organisms.

Landscape Consultants have been identified as a profession who work in a high risk environment as they have multiple opportunities to artificially introduce or spread new P&D into the landscape throughout every stage of work of a project. Thankfully, with a holistic approach, Landscape Consultants are also one of the best placed professional groups to understand, manage and reduce this risk to the wider environment and society at large. Whilst much of the recent industry attention has focussed on the specification of trees and managing risks on site, this guidance follows the RIBA or LI Plan of Work, allowing users to apply the biosecurity continuum principles set out in governmental guidance¹ to practical examples of their work.



The following guidance highlights some of the tangible issues and opportunities that landscape consultants should consider in undertaking their work.

¹Protecting Plant Health: A Plant Biosecurity Strategy for Great Britain. Published by Defra 2014



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The Landscape Consultant's role in the biosecurity continuum

UK governmental biosecurity policy sets out a series of measures that aim to prevent the introduction and spread of harmful organisms (referred to as the biosecurity continuum), with measures in place to anticipate the spread of P&D between countries, intercept these at UK borders and then manage them within the UK.

Whilst much of the existing guidance² is focused on the trade, inspection and management of plants, the Landscape Consultant has an obligation to understand the broader role of these P&D in the environment, reporting their presence to relevant authorities and make risk-based decisions about their impact and management. Understanding the pathways of introduction and spread is critical: in some cases, P&D will be nearby or present in sites that we work on. However, the principle route for P&D into a site will be via plants for planting but other pathways should be considered, including soil and growing media, wood, wood packaging material and vehicles machinery and equipment (VME).

It should be noted that many of the future biosecurity challenges are likely to be of unknown source, magnitude and timing, so this guidance takes a precautionary approach recognising the need to manage the impact of the unknowns. The impact of P&D is determined using international protocols described as Pest Risk Analysis, carried out by Defra. Information about the current threats to the UK are listed in the UK Plant Health Risk Register³, which can be easily downloaded and assessed alongside habitat inventories and plant specifications, or searched using a range of criteria including plant host or pest or pathogen.

The Risk Register has grown substantially since its formation in 2016, demonstrating dynamic nature of the risk register and the need to keep up-to-date with emerging threats. Outside the UK, other plant protection organisations such as European and Mediterranean Plant Protection Organisation (EPPO), the European Food Standards Agency (EFSA) and the FAO's International Plant Protection Convention (IPPC) provide technical advice and standards for phytosanitary measures.

There are significant overlaps between the design, implementation, management and engagement sections and the LA should be aware of the need for a holistic approach to biosecurity in this respect. The need for collaborative dialogue and communication between the LA, client, contactors, managers and other stakeholders is an on-going theme within this guidance. This guidance note is considered to be a working document, to be revised and updated to account for the results of ongoing research, legislation, best practice and future relationship with the EU.



Information about the current threats to the UK are listed in the UK Plant Health Risk Register.

²See 'References and Further Information', p.16

³Accessible at <https://secure.fera.defra.gov.uk/phiw/riskRegister/>



3

General principles

The assessment and design stages are arguably the most influential points at which Landscape Consultants to manage plant health and biosecurity as these stages are opportunities to establish relationships, manage expectations and set the terms of reference for future contracts.

During the contract management stages, it is essential to understand the scope and nature of your professional appointment and extent of your ability to influence the quality of work on site and enforcement of biosecurity standards. Traditional contracts (like JCLI) offer the greatest control of quality and workmanship in terms of plant biosecurity standards, but it is recognised the scope to impose or enforce such standards may be contractually more limited particularly when the Landscape Consultant is not the contract administrator.

The landscape construction and planting works is an important but otherwise brief and transient phase within the evolution of the urban and rural landscape. At best, this may extend into a maintenance or management plan which offers some scope to influence the allocation of resources and skills but beyond this, there is a continuing need for plant health and biosecurity issues to be managed and monitored during long term landscape and maintenance operations.

This also offers the opportunity to encourage subtle but enduring changes which will also deliver tangible improvements to the resilience of urban and rural landscapes to P&D.



The landscape construction and planting works is an important but brief phase within the evolution of the urban and rural landscape.



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Preparation of brief, including project feasibility and landscape assessment

Landscape Institute or RIBA Work Stage 1

Action or Issue	Threats	Potential Control Tools
4.1 Assessment of landscape character	The wider landscape may include features that are vulnerable to change, such as large numbers of plants in stressful environments, or the nearby presence of vectors for P&D.	<p>Ensure that the project site contributes to and enhances landscape character by ensuring that designed habitats will diversify, enlarge or connect existing plant communities or landscape systems. Use Section 9 (below) or the Risk Register to identify species that are at significant risk and identify the potential impact of the loss of these species upon the landscape character. Further, landscape character assessment should identify whether it would be possible for P&D present in the site to spread to nearby areas.</p> <p>In sensitive sites (for example where designations apply), reference to the NVC classification could be used to identify suitable plants for enhancement.</p>
4.2 Describing landscape and visual baseline; identification and description of effects	Pests or diseases may be present either within the site or in the wider landscape. As such the site may include features that need to be removed or remediated, such as invasive plants, polluted waterways or contaminated soils.	<p>Work with ecologists and arboriculturists to identify features that could negatively impact the existing ecosystem and develop strategies that support project brief and wider landscape character.</p> <p>Avoid reliance on engineering and plant retention solutions which may impact health or vigour in the long term.</p> <p>Work with full project team to ensure that the full range of direct, indirect and cumulative effects are considered at the earliest possible stages, and that avoidance or mitigation strategies can be incorporated throughout project.</p>



Identify species that are at significant risk and the potential impact of the loss of these species upon the landscape character.



Preparation of brief, including project feasibility and landscape assessment

Landscape Institute or RIBA Work Stage 1 [continued](#)

Action or Issue	Threats	Potential Control Tools
4.3 Procurement planning	<p>Lack of control over plant sourcing, supply, quality and substitution common with many procurement routes.</p> <p>Similarly, the landscape consultant may anticipate a lack of control over landscape contractor selection and/or selection of nursery supplier(s), also common with many procurement routes</p>	<p>Explore contract growing of plant material, including the quarantine of imports. Agree procurement route early with client and project team and implement as separate contract starting before construction contract (possibly with novation) – see JCLI Practice Note No 11: Contract Growing Guidance.</p> <p>Where landscape is part of building/engineering project, consider soft landscape works as a separate contract from building/engineering contract, and include a 5 year establishment maintenance contract</p> <p>If soft landscape work and plant supply is to be subcontracted, discuss with client and project team how to control contractor and nursery selection to ensure biosecurity objectives and quality.</p>
4.4 Developing design recommendations	<p>Design recommendations may be constrained in a number of ways, such as through working in isolated teams (preventing holistic design development), budget or time constraints, or planning or regulatory restrictions.</p>	<p>Ensure the scheme is buildable without detrimentally impacting current or future growing conditions.</p> <p>Opportunities to avoid, reduce or mitigate effects should be explored, and agree which plants are to be retained as part of a development at the earliest opportunity.</p>



5

Landscape Design and Specification

Landscape Institute or RIBA Work Stages 2 – 4

Action or Issue	Threats	Potential Control Tools
5.1 Identifying an area for new planting	Stressed plants are inherently more susceptible to P&D	Ensure you have an understanding of site environmental characteristics and likely management opportunities
5.2 Designing the planting environment	This is essential to sustain healthy plant growth and very difficult to rectify in retrospect	Design or specify a growing medium that is of suitable quality and type and that thorough ground preparation is undertaken
5.3 Specifying plant species	Plant species respond to stresses differently: plants grown outside their optimal conditions are likely to become stressed, and in turn are more susceptible to P&D	At design stage, select the right plant for the right place: the less stress the plant is under, the more resilient to pests and diseases it will be. If the plant you want to specify is a host or vector of pathogens recorded on Defra Plant Health Risk Register, ensure that all methods of plant health control have been carried out- this may include design variation, provision of Plant Passport or quarantine.
5.4 Designing plant communities	Low genetic diversity (such as using a limited number of species or a large number of the same cultivar or clone) exposes the plant community to higher levels of health and biosecurity risk	Using a greater range of species will expose a smaller proportion of plants to impacts of a given P&D (since other species are likely to have some, or complete, resistance) and impact is reduced. Unless other regulations require otherwise or there is a need to establish a particular suite of genotypes, avoid specifying more than 30% of any one plant family, 20% of any one genus and 10% of one variety within a design. This need not preclude some single species planting groups/tree avenues within a scheme but in a similar vein, avoid planting hosts of the same serious pest or disease close together, for example, avoid planting a bed with more than one species of <i>Phytophthora ramorum</i> host, so that the impacts are reduced if an area does get <i>P. ramorum</i> .



Landscape Design and Specification

Landscape Institute or RIBA Work Stages 2 – 4 *continued*

Action or Issue	Threats	Potential Control Tools
5.5 Specifying plant sizes and forms	Not only do the size and form of a plant have a significant impact on the plant's requirements after planting, its establishment rate and growth, larger plants are at greater risk of hosting pests and diseases.	<p>Specify the smallest plant size possible (whilst meeting the client's objectives) as more mature plants have higher water and nutrient demands, making them more sensitive to unpredictable care in the establishment phase.</p> <p>For herbaceous plants and shrubs, it is often better and more cost effective to specify a larger number of smaller stock size plants to ensure designed plants are able to out compete weeds.</p> <p>Consider specifying container-grown stock over bare root or rootballed where direct control over planting works is not possible: this will mitigate the risk of plant desiccation/damage on site e.g. through delays. There is, however, a balance to be struck as whilst bare-rooted plants pose a lower risk due to the absence of soil, their supply and handling requirements are more specific.</p>
5.6 Designing native plant communities	Native plant species of regional provenance are well adapted to current or recent regional growing conditions but specifying 'UK native plants' is not a guarantee of healthy plants, a robust plant community or optimal biodiversity.	Liaise with nurseries to confirm plant provenance, sizes and stock availability, preferably specifying "UK grown." In many cases, especially for woody plants (which are typically longer lived than herbaceous plants), identifying plants with genetic provenances from more southerly latitudes is preferable to local genotypes as they are likely to be better adapted to future climates. Explore complementary non-native species, which can often increase biodiversity.



Landscape Design and Specification

Landscape Institute or RIBA Work Stages 2 – 4 *continued*

Action or Issue	Threats	Potential Control Tools
5.7 Client requests large format plants for immediate impact	Large format plants (such as semi-mature/mature plants with large rootballs) are a high risk vector for P&D, not only because they include large soil volumes but also because they are frequently imported from countries with a wider range of P&D.	<p>Consider where and why imported plants and/or advanced nursery stock trees are required?</p> <p>Liaise with nurseries to establish availability/sizing of UK grown plant stock.</p> <p>Where imported plant material is required, specify a 12 month quarantine within the nursery (including inspections by appropriately trained staff) prior to delivery to site, including written audit trail to prove seed source and propagation techniques.</p>
5.8 Writing the planting specification and management plan	Adequate specification is essential for contractual enforcement of necessary biosecurity measures.	<p>Discussion with client is essential to ensure the specification is adequate to achieve the required and necessary biosecurity standards.</p> <p>Degree of control over plant supply, planting work and aftercare to be accounted for at design stage to reduce common risks of failure/plant stress.</p>



Landscape Design and Specification

Landscape Institute or RIBA Work Stages 2 – 4 *continued*

Action or Issue	Threats	Potential Control Tools
<p>5.9 Ensuring that your designs meet UK biosecurity policy</p> <p>Ensuring that your designs meet UK biosecurity policy (cont.)</p>	<p>Some materials or plants are covered by regulations that restrict their trade or supply due to their scarcity or potential to be vectors for harmful organisms</p>	<p>Specify the lowest risk plant material at all times, whether this is the genus/species, size or origin.</p> <p>Ensure that you specify hard landscape materials from sustainable sources and that if your materials are transported in wood packaging that this pressure treated and free of bark.</p> <p>Identify whether the plants you have specified require Plant Passports, or imported plants which require APHA notification. Certain species (see appendix) will also need a specific ZP code on their plant passports to confirm they come from a nursery free of the pests and diseases that the UK has a Protected Zone for. It is worth becoming familiar with these so that when stock is imported the passports can be checked to confirm they have originated from a pest free area.</p> <p>Ensure that the design or management plan does not specify plants that breach other restrictions (eg restrictions on importing oak over 25cm DBM or Fraxinus movement restrictions).</p>
<p>5.10 Planning Start Date for contract</p>	<p>Timing of plant stock procurement may not have been considered as part of construction contract.</p>	<p>Informed dialogue with client/contractor/nurseries.</p> <p>Consider contract growing or advance procurement of plant stock (especially imported stock allowing for 12 month UK quarantine)</p>



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Landscape Construction and Handover

Landscape Institute or RIBA Work Stages 5 – 6

Action or Issue	Threats	Potential Control Tools
6.1 Applying specifications during construction / planting operations	Pressures of cost or timing on site may lead to variations to the contract being requested.	<p>Consider what tools can be written into the specification for timely enforcement and to raise awareness of non-conformities.</p> <p>Use 'traditional' type contracts (rather than design and build) to encourage compliance under contract- this will need to be discussed at project inception and regularly confirmed throughout design stages.</p>
6.2 Identifying plant suppliers, such as seed sources for meadows or nurseries for mature plants	Ensure biosecurity requirements have been acknowledged and understood by all tendering / nominated contractor(s).	Liaison with plant nurseries to confirm propagation methods should be minimum requirement: request written audit trail to prove seed/plant source and propagation techniques.
6.3 Value engineering	Value engineering presents numerous threats to biosecurity best practice as this process frequently reduces the role that the landscape consultant has to manage correct implementation of the specification. Further, potential cost savings (such as use of containerised tree stock) may create additional costs (such as irrigation requirements) and stresses, leading to poor plant health and uneven establishment	<p>Contract growing will ensure that value engineering of plant specification is not possible without significant cost penalties and changes to contract. The designer should be able to demonstrate the value of compliance and the landscape itself to the project.</p> <p>Have a procedure ready to allow client/ contractor/LA to manage variations quickly and efficiently and with minimal impact upon the project in terms of time and money.</p>
6.4 Variations to specification or suppliers	Risk of introducing P&D on imported plants and materials delivered to site.	Ensure that all variations are agreed by the Landscape Consultant and meet the biosecurity standards set out in the specification, even if the materials or their provenance change.



Landscape Construction and Handover

Landscape Institute or RIBA Work Stages 5 – 6 *continued*

Action or Issue	Threats	Potential Control Tools
6.5 Imported plant stock	Imported plants from outside UK increases risk of P&D being accidentally introduced to UK nurseries, site and the wider environment. Large, semi-mature/mature plants with large rootballs of soil are particularly high risk.	Specify UK propagated / grown plant material in design stages. Where direct control over plant stock procurement is restricted due to the scope of works or nature of appointment, consider opportunities to designing-out reliance upon imported stock.
6.6 Developing the Project Programme	Planting season may not have been considered by client as part of the construction contract, raising implications for procurement, storage, planting and establishment of plants	Early liaison with client/contractor to establish programme. Consider opportunities within the project programme for undertaking planting in the dormant season to avoid physiological plant stress and reduced vigour when planting is undertaken outside the dormant season. Particularly applies to advance nursery stock trees. Explore opportunities for undertaking some planting during construction to coincide with dormant season. Discuss provisional allowance for phased delivery of plant material, extended defects liability period, maintenance and site protection.
6.7 Managing works on site	Contractor may be unaware that P&D can be transferred by a wide range of means, including soil and growing media, wood and wood packaging materials, vehicles, machinery and equipment (VME).	Monitoring by LA and/or Clerk of Works at critical phases within contract, e.g. nursery inspection, plant stock delivery etc. LA to document/approve sources of imported plants and materials, (Including packaging).



Landscape Construction and Handover

Landscape Institute or RIBA Work Stages 5 – 6 *continued*

Action or Issue	Threats	Potential Control Tools
6.8 Managing storage and handling of plants on site	Plant handling and storage on site are critical to managing biosecurity. For example, transferring plants around and between sites must be avoided if possible: P&D are easily transferred on dirty vehicles or equipment in soil, compost, leaf litter and wood chippings.	<p>To avoid physiological plant stress and reduced vigour as Healthy, vigorous plants are inherently more resistant to P&D.</p> <p>Contractor's vehicles, plant, tools or boots which should be cleaned prior to entering site.</p> <p>Careful drafting, communication and enforcement of site cleanliness within associated specifications.</p> <p>Consider means of monitoring and enforcement.</p> <p>Rigorous assessment of all materials brought on site, including hard landscape materials and packaging, but especially imported plants.</p> <p>Early identification brings significant saving in cost/resources over P&D management in wider landscape.</p>



7

Landscape management

Landscape Institute or RIBA Stage 7

Action or Issue	Threats	Potential Control Tools
7.1 Implementation of defects liability/contract maintenance period.	Risk of P&D infection of new plants	Careful drafting, communication and enforcement of site cleanliness within associated specifications. This should include client / site occupier engagement by LA before end of defects liability/ maintenance contract to highlight ongoing importance of managing biosecurity issues following the contract. If necessary, the contractors defects liability period could be extended or applied to specific elements such as trees.
7.2 Implementation of Management Plan	Risk of P&D infection of new plants	Highlight the risks posed by P&D in the management plan and integrate control measures into cost / resource planning. Confirm responsibilities and systems for reporting and ensure that the landscape consultant is required to carry out annual or cyclical inspection.
7.3 Training of new staff or change in management team	Spirit and detail of the design may be watered down or forgotten over time.	Develop long term resilience by including management techniques such as; <ul style="list-style-type: none"> • Site hygiene and role in reducing the artificial spread of P&D. • Principles of plant species diversity will assist with long term resilience against P&D. (Balanced against other, potentially conflicting requirements, e.g. screening/shelter, habitat creation or amenity). • Age diversity, particularly within tree stock will also provide resilience to P&D and ensure that if selected species are lost or significantly degraded. <p>Where context permits, consider managed natural regeneration of species compatible suitable for the overriding management objectives. (Benefits of this include; low cost, seed raised (adding genetic diversity), inherently adapted to the location.</p>



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Further information

 Governmental bodies	<p>The regulatory framework for biosecurity is administered by UK Plant Health Services, the umbrella body that brings together Defra and the devolved administrations across the two phytosanitary regions of Great Britain and Ireland. In most instances, Animal and Plant Health Agency (Apha) is the appropriate first point of contact for any plant health or biosecurity concerns. Although plant health is the responsibility of devolved administrations, all parties work within the framework of EU plant health directives to achieve consistent approaches with specific policies where necessary.</p>
 Regulatory and policy context	<p>The Plant Health Act 1967 forms the basis for UK biosecurity policy, which is set out in 'The Plant Biosecurity Strategy for Great Britain'⁴, the UK Plant Health Risk Register,⁵ and the recent 25 Year Environment Plan⁶ and Tree Health Resilience Strategy.⁷</p>
 Materials provenance	<p>Plant Passports⁸ are required for many plants that are frequently used by landscape consultants (see appendix). The Forestry Commission information note Forest Reproductive Material⁹ and the Plant Passporting Quarantine Pest and Disease Index¹⁰ provide the most current guidance to which plants require passports and or are subject to movement controls.</p>
 Collaborative working	<p>Quality Assurance Schemes followed by nurseries should be investigating when researching suppliers.</p> <p>Tree & Landscape Officers may have innovative recommendations and techniques.</p> <p>Ensure that site-specific geotechnical, hydrological and ecological assessments are carried out and findings incorporated in the landscape strategy.</p>

⁴ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/307355/pb14168-plant-health-strategy.pdf

⁵ <https://secure.fera.defra.gov.uk/phiw/riskRegister/>

⁶ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf

⁷ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/710719/tree-health-resilience-strategy.pdf

⁸ <https://www.gov.uk/guidance/issuing-plant-passports-to-trade-plants-in-the-eu#when-you-need-a-plant-passport>



 <p>Plant species selection</p>	<p>The TDAG tree species selection guide provides an objective, evidence-based guide to species selection.¹¹</p> <p>Consult a range of independent sources (such as encyclopaedias or botanical guides) rather than nursery catalogues, which focus on selling plants rather than providing consistent horticultural advice.</p>
 <p>Standards</p>	<p>ISPM Standards cover a range of important issues such as phytosanitary certificates and wood packaging.</p> <p>BS5837:2012 for Trees in relation to design, demolition and construction.</p> <p>BS3882:2015 for topsoil (or follow technical guidance from a soil scientist).</p> <p>National Plant Specification and NBS Landscape Specification.</p> <p>BS8545:2014 Trees: from nursery to independence in landscape.</p> <p>The Arboricultural Association has published a Biosecurity Guidance Note with very useful examples of standards¹²</p>
 <p>Contracts</p>	<p>Different Standard Form contracts are suited to a range of different projects and procurement routes, but thorough research, writing and enforcement of the Specification remains the most effective means to minimise biosecurity and plant health risks.</p>

⁹ <https://www.forestresearch.gov.uk/documents/1450/fcfc003.pdf>

¹⁰ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/767444/qpd-index.pdf

¹¹ <https://www.myerscough.ac.uk/media/4052/hirons-and-sjoman-2018-tdag-tree-species-selection-1-1.pdf>

¹² <https://www.trees.org.uk/Help-Advice/Biosecurity>



9

Specifying plants with confidence

Whilst the Defra Risk Register offers a complete guide to all the pests and diseases that are known to affect or may yet affect plant health in the UK, using it can be daunting and time-consuming if you wish to assess the risk of using a particular species. Some genera (such as Pinus or Quercus) are associated with a very large number of pests, many of which pose less significant threats than others. As such, it is worth taking a risk-based approach, taking care to assess other partners in your supply chain in terms of their biosecurity practices, becoming familiar with the high profile pests and diseases on the plant health portal¹³ as well as the pests and their hosts for which the UK has Protected Zone¹⁴ status.

The following section:

- Sets out a non-exhaustive guide to plants commonly-used by landscape consultants and contractors
- Identifies some of their pests and pathogens,
- Measures that should be taken to ensure that associated risks are avoided, minimised and mitigated,
- Pathways that convey pests and pathogens,
- The regulations that apply to the pathogen and the potential host plant, and
- The UK Relative Risk Rating (as per the Defra Risk Register, as of January 2019).



The risk rating does not refer to the risk associated with a particular plant, but to the mitigated risk associated with the pest after control measures have been taken. Some genera or species are less affected by a particular pest or pathogen than others. Interpreting the risk rating therefore requires careful consideration.

¹³ <https://planthealthportal.defra.gov.uk/pests-and-diseases/high-profile-pests-and-diseases/>

¹⁴ <https://planthealthportal.defra.gov.uk/resources/plant-health-protected-zones/>



Specifying plants with confidence continued

Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
Abies	Pinewood nematode (<i>Bursaphelenchus xylophilus</i>)	Notify Forestry Commission or APHA	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers); Non-squared wood	Emergency measures	30
Acer	Citrus longhorn beetle (<i>Anoplophora chinensis</i>)	Citrus longhorn beetle is not yet in the UK. However, familiarisation with the symptoms is suggested and notification of relevant authorities essential in the event of a discovery.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	EU Annex 1	30
	Asian longhorn beetle (<i>Anoplophora glabripennis</i>)	Asian longhorn beetle is not yet in the UK. However, familiarisation with the symptoms is suggested and notification of relevant authorities essential in the event of a discovery.	Plants for planting (except seeds bulbs and tubers); Wood and wood products; Wood packaging material	EC IAI; EPPO A1	40
	Sweet chestnut blight (<i>Cryphonectria parasitica</i>)	Suppliers must be able to supply a Plant Passport. If possible, order plants early and quarantine in a low risk area for a period of time before planting	Plants for planting (except seeds bulbs and tubers)	Annex IIB (UK protected zone) and plant passporting reqs	30
Acer cont.	Phytophthora spp.	Familiarisation with the symptoms of Phytophthora is suggested and notification of authorities essential in the event of a discovery. Improving soil drainage can greatly reduce the risk of plants succumbing to the disease. Where the disease is new or localised in the garden, affected plants should be destroyed and the soil from the root-run replaced with fresh topsoil. Replanting should be done with less susceptible species.	Soil/growing medium; Plants for planting (except seeds bulbs and tubers)	UK Emergency legislation (unlisted)	80
	Verticillium Wilt (<i>Verticillium dahliae</i> and <i>V. albo-atrum</i>)	The fungus can be spread in contaminated soil, so if the disease is suspected, be careful not to spread soil from around the affected plants on tools or muddy boots. Remove the infected plant with as much root system as possible and destroy. Consider grassing over the area for at least fifteen years, or plant a resistant replacement. Heavy watering and application of ammonium-based fertilisers (nitrogenous) may stimulate the production of new conducting tissue in woody plants and help them recover. Plant less susceptible genera.	Plants for planting (except seeds bulbs and tubers)	EC IIAII	16



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
Acer pseudoplatanus	Xylella fastidiosa subsp. multiplex	If Xylella sp. are suspected you should not attempt to control the disease yourself. Collect together all available details including the host plant name, symptoms, origin, and import history and report your suspicions to the Animal and Plant Health Agency (APHA). If possible, order plants early and quarantine in a low risk area for a period of time before planting. Acer pseudoplatanus used for planting which originates from outside the UK must be accompanied by a plant passport upon entry to the UK. Suppliers must be able to supply this documentation.	Plants for planting (except seeds bulbs and tubers)	ECIAI; Commission Implementing Decision 2015/789	60
Aesculus	General	All Aesculus hippocastanum used for planting which originate from outside the UK must be accompanied by a plant passport upon entry to the UK. Suppliers must be able to supply this documentation. If possible, order plants early and quarantine in a low risk area for a period of time before planting.	-	-	-
Aesculus cont.	Citrus longhorn beetle (Anoplophora chinensis)	Citrus longhorn beetle is not yet in the UK. However, familiarisation with the symptoms is suggested and notification of relevant authorities essential in the event of a discovery.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	EU Annex 1	30
	Asian longhorn beetle (Anoplophora glabripennis)	Asian longhorn beetle is not yet in the UK. Familiarisation with the symptoms is suggested and notification of authorities essential in the event of a discovery.	Plants for planting (except seeds bulbs and tubers); Wood and wood products; Wood packaging material	EC IAI; EPPO A1	40
	Horse chestnut leaf miner (Cameraria ohridella)	None necessary	Natural spread; Hitchhiking; Plant waste; Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	-	24



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
	Phytophthora ramorum	Familiarisation with the symptoms of Phytophthora is suggested and notification of authorities essential in the event of a discovery. Improving soil drainage can greatly reduce the risk of plants succumbing to the disease. Where the disease is new or localised in the garden, affected plants should be destroyed and the soil from the root-run replaced with fresh topsoil.	Soil/growing medium; Plants for planting (except seeds bulbs and tubers)	UK Emergency legislation (unlisted)	80
Ajuga	No significant risks		-	-	-
Allium	Allium leaf miner (Phytomyza gymnostoma)	None of the pesticides available to home gardeners is likely to give control of allium leaf miner. However, plants can be protected by covering them with horticultural fleece, or an insect-proof mesh such as Ultra-Fine Enviromesh, at times when the adult flies are active and laying eggs (March to April and October to November). Crop rotation must be used, as adult flies might emerge from pupae underneath the covering if susceptible plants are grown in the same piece of ground in successive years.	Natural spread; Plants for planting (except seeds bulbs and tubers); Bulbs or tubers	-	36
Alnus	Alder leaf beetle (Agelastica alni)	It can be impossible to control alder leaf beetle particularly on taller trees. Fortunately, although the damage they cause can be unsightly, it is something that the trees will survive.	Natural spread	-	Not rated
	Asian longhorn beetle (Anoplophora glabripennis)	Asian longhorn beetle is not yet in the UK. Familiarisation with the symptoms is suggested and notification of authorities essential in the event of a discovery.	Plants for planting (except seeds bulbs and tubers); Wood and wood products; Wood packaging material	EC IAI; EPPO A1	40



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
Alnus cont.	Phytophthora spp.	Familiarisation with the symptoms of Phytophthora is suggested and notification of authorities essential in the event of a discovery. Improving soil drainage can greatly reduce the risk of plants succumbing to the disease. Where the disease is new or localised in the garden, affected plants should be destroyed and the soil from the root-run replaced with fresh topsoil. Replanting should be done with less susceptible species.	Soil/growing medium; Plants for planting (except seeds bulbs and tubers)	UK Emergency legislation (unlisted)	80
Amelanchier	Fireblight (Erwinia amylovora)	Prune out and burn infections promptly, peeling back the bark to reveal the brown staining and cutting back 30cm (1ft) to healthy wood in smaller branches, 60cm (2ft) in larger ones. Wipe pruning tools with disinfectant (Jeyes Fluid or methylated spirit) between cuts to avoid spreading the bacteria. Remove secondary, late blossoms before they open.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	UK (Part) Protected Zone	16
Anemone	Leaf and Bud Nematode (Aphelenchoides spp)	Dispose of plants with over 15% leaf area damage, as these are unlikely to respond to any treatment with a plant protection product	Plant propagation and movement	-	Not rated
Asplenium	Leaf and Bud Nematode (Aphelenchoides spp)	Dispose of plants with over 15% leaf area damage, as these are unlikely to respond to any treatment with a plant protection product	Plant propagation and movement	-	Not rated
Aucuba	Phytophthora spp.	Familiarisation with the symptoms of Phytophthora is suggested and notification of authorities essential in the event of a discovery. Improving soil drainage can greatly reduce the risk of plants succumbing to the disease. Where the disease is new or localised in the garden, affected plants should be destroyed and the soil from the root-run replaced with fresh topsoil. Replanting should be done with less susceptible species.	Soil/growing medium; Plants for planting (except seeds bulbs and tubers)	UK Emergency legislation (unlisted)	80
Bergenia	Leaf and Bud Nematode (Aphelenchoides spp)	Dispose of plants with over 15% leaf area damage, as these are unlikely to respond to any treatment with a plant protection product	Plant propagation and movement	-	Not rated



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
Betula	Birch dieback (Anisogramma virgultorum and Marssonina betulae)	Seed grown birch or naturally regenerated trees appear less susceptible	Plants for planting (except seeds bulbs and tubers)	-	Not rated
Betula cont.	Citrus longhorn beetle (Anoplophora chinensis)	Citrus longhorn beetle is not yet in the UK. However, familiarisation with the symptoms is suggested and notification of relevant authorities essential in the event of a discovery.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	EU Annex 1	30
	Asian longhorn beetle (Anoplophora glabripennis)	Asian longhorn beetle is not yet in the UK. However, familiarisation with the symptoms is suggested and notification of relevant authorities essential in the event of a discovery.	Plants for planting (except seeds bulbs and tubers); Wood and wood products; Wood packaging material	EC IAI; EPPO A1	40
	Honey fungus (Armillaria spp.)	If honey fungus is confirmed, the only effective remedy is to excavate and destroy, by burning or landfill, all of the infected root and stump material. To prevent honey fungus spreading to unaffected areas, a physical barrier such as a 45cm (18in) deep vertical strip of butyl rubber (pond lining) or heavy duty plastic sheet buried in the soil will block the rhizomorphs. Avoid the most susceptible plants and instead use plants that are rarely recorded as being affected by honey fungus.	Fungal	-	Not rated
Buxus	Box caterpillar (Cydalima perspectalis)	Plants in flower should not be sprayed due to the danger to pollinating insects. Where practical, caterpillars should be removed by hand; pheromone traps can help monitor adult moth activity (available from several suppliers including Agralan)	Hitchhiking; Plants for planting (except seeds bulbs and tubers)	-	16
	Box blight (Cylindrocladium buxicola)	Hold any commercially sourced plants in isolation for at least three weeks to confirm they are free of infection before planting out. Chemical and non-chemical control methods are available for treating Box tree moth and box blight, however, treatment in areas where infection is concentrated may have limited success.	Plants for planting. Appears to thrive in areas of poor air circulation or humidity.	-	Not rated



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
	Volutella blight (Pseudonectria buxi)	Not a serious disease and improving cultural conditions will usually lead to plant recovery. Diseased branches should be pruned out when the foliage is dry, and old fallen leaves removed from the interior of affected plants.	P. buxi requires wounds for infection and is associated with environmental stress or clipping in wet weather.	-	Not rated
Carex	No significant risks	-	-	-	-
Carpinus	Alder leaf beetle (Agelastica alni)	It can be impossible to control alder leaf beetle particularly on taller trees. Fortunately, although the damage they cause can be unsightly, it is something that the trees will survive.	Natural spread	-	Not rated
Carpinus cont.	Citrus longhorn beetle (Anoplophora chinensis)	Citrus longhorn beetle is not yet in the UK. However, familiarisation with the symptoms is suggested and notification of relevant authorities essential in the event of a discovery.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	EU Annex 1	30
	Asian longhorn beetle (Anoplophora glabripennis)	Asian longhorn beetle is not yet in the UK. However, familiarisation with the symptoms is suggested and notification of relevant authorities essential in the event of a discovery.	Plants for planting (except seeds bulbs and tubers); Wood and wood products; Wood packaging material	EC IAI; EPPO A1	40
	Phytophthora spp.	Familiarisation with the symptoms of Phytophthora is suggested and notification of authorities essential in the event of a discovery. Improving soil drainage can greatly reduce the risk of plants succumbing to the disease. Where the disease is new or localised in the garden, affected plants should be destroyed and the soil from the root-run replaced with fresh topsoil. Replanting should be done with less susceptible species.	Soil/growing medium; Plants for planting (except seeds bulbs and tubers)	UK Emergency legislation (unlisted)	80
Castanea	Sweet chestnut blight (Cryphonectria parasitica)	All Castanea sp. used for planting which originate from outside the UK must be accompanied by a plant passport upon entry to the UK. Suppliers must be able to supply this documentation. If possible, order plants early and quarantine in a low risk area for a period of time before planting	Plants for planting (except seeds bulbs and tubers)	Annex IIB (UK protected zone) and plant passporting reqs	30



Specifying plants with confidence continued

Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
	Oriental chestnut gall wasp (<i>Dryocosmus kuriphilus</i>)	Notify Forestry Commission or APHA.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	UK Protected Zone	27
	Phytophthora ramorum	Familiarisation with the symptoms of Phytophthora is suggested and notification of authorities essential in the event of a discovery. Improving soil drainage can greatly reduce the risk of plants succumbing to the disease. Where the disease is new or localised in the garden, affected plants should be destroyed and the soil from the root-run replaced with fresh topsoil. Replanting should be done with less susceptible species.	Soil/growing medium; Plants for planting (except seeds bulbs and tubers)	UK Emergency legislation (unlisted)	80
Cedrus	Pinewood nematode (<i>Bursaphelenchus xylophilus</i>)	Notify Forestry Commission or APHA	Cut flowers or branches; Plants for planting; Non-squared wood	Emergency measures	30
Cornus	Honey fungus (<i>Armillaria</i> spp.)	If honey fungus is confirmed, the only effective remedy is to excavate and destroy, by burning or landfill, all of the infected root and stump material. To prevent honey fungus spreading to unaffected areas, a physical barrier such as a 45cm (18in) deep vertical strip of butyl rubber (pond lining) or heavy duty plastic sheet buried in the soil will block the rhizomorphs. Avoid the most susceptible plants and instead use plants that are rarely recorded as being affected by honey fungus.	Fungal	-	Not rated
	Cornus anthracnose (<i>Discula destructiva</i>)	Choose resistant species: <i>C. florida</i> and <i>C. nuttallii</i> appear to be the most susceptible; UK native species appear unaffected. The fungicides tebuconazole (Bayer Fungus Fighter Concentrate), tebuconazole with trifloxystrobin (Bayer Fungus Fighter Plus), and triticonazole (Scotts Fungus Clear Ultra and Scotts Fungus Clear Ultra Gun) are approved for use against various fungal diseases on ornamental plants	Water	-	Not rated



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
Cornus cont.	Phytophthora ramorum	Familiarisation with the symptoms of Phytophthora is suggested and notification of authorities essential in the event of a discovery. Improving soil drainage can greatly reduce the risk of plants succumbing to the disease. Where the disease is new or localised in the garden, affected plants should be destroyed and the soil from the root-run replaced with fresh topsoil. Replanting should be done with less susceptible species.	Soil/growing medium; Plants for planting (except seeds bulbs and tubers)	UK Emergency legislation (unlisted)	80
Corylus	Alder leaf beetle (Agelastica alni)	It can be impossible to control alder leaf beetle particularly on taller trees. Fortunately, although the damage they cause can be unsightly, it is something that the trees will survive.	Natural spread		Not rated
Corylus	Citrus longhorn beetle (Anoplophora chinensis)	Citrus longhorn beetle is not yet in the UK. Familiarisation with the symptoms is suggested and notification of relevant authorities essential in the event of a discovery.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	EU Annex 1	30
Corylus cont.	Asian longhorn beetle (Anoplophora glabripennis)	Asian longhorn beetle is not yet in the UK. Familiarisation with the symptoms is suggested and notification of relevant authorities essential in the event of discovery.	Plants for planting (except seeds bulbs and tubers); Wood and wood products; Wood packaging material	EC IAI; EPPO A1	40
	Candidatus (Candidatus phytoplasma)	Use of healthy plant material and eradication of weeds	Plants for planting (except seeds bulbs and tubers)	-	12
Cotoneaster	Fireblight (Erwinia amylovora)	Prune out and burn infections promptly, peeling back the bark to reveal the brown staining and cutting back 30cm (1ft) to healthy wood in smaller branches, 60cm (2ft) in larger ones. Wipe pruning tools with disinfectant (Jeyes Fluid or methylated spirit) between cuts to avoid spreading the bacteria. Remove secondary, late blossoms before they open.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	UK (Part) Protected Zone	16



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
Crataegus	Honey fungus (Armillaria spp.)	If honey fungus is confirmed, the only effective remedy is to excavate and destroy, by burning or landfill, all of the infected root and stump material. To prevent honey fungus spreading to unaffected areas, a physical barrier such as a 45cm (18in) deep vertical strip of butyl rubber (pond lining) or heavy duty plastic sheet buried in the soil will block the rhizomorphs. Avoid the most susceptible plants and instead use plants that are rarely recorded as being affected by honey fungus.	Fungal	-	Not rated
	Fireblight (Erwinia amylovora)	Prune out and burn infections promptly, peeling back the bark to reveal the brown staining and cutting back 30cm (1ft) to healthy wood in smaller branches, 60cm (2ft) in larger ones. Wipe pruning tools with disinfectant (Klean Kill, Jeyes Fluid or methylated spirit) between cuts to avoid spreading the bacteria. Remove secondary, late blossoms before they open.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	UK (Part) Protected Zone	16
Drimys winteri	Phytophthora kernoviae	Familiarisation with the symptoms of Phytophthora is suggested and notification of authorities essential in the event of a discovery. Improving soil drainage can greatly reduce the risk of plants succumbing to the disease. Where the disease is new or localised in the garden, affected plants should be destroyed and the soil from the root-run replaced with fresh topsoil. Replanting should be done with less susceptible species.	Soil/growing medium; Plants for planting (except seeds bulbs and tubers)	UK emergency measures	40
Dryopteris	Leaf and Bud Nematode (Aphelenchoides spp)	Dispose of plants with over 15% leaf area damage, as these are unlikely to respond to any treatment with a plant protection product	Plant propagation and movement	-	Not rated



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
Echinacea	Aster yellows (Candidatus asteris)	The incidence of aster yellows (AY) disease can be reduced significantly if proper attention is given to all control measures. These mainly include the use of healthy plant material, eradication of perennial or biennial weed hosts from the field, roadways and fences, control of the leafhopper vectors in the crop and on weeds with insecticides as early in the season as possible and avoidance of planting a susceptible crop next to a crop harbouring the pathogens.	Plants for planting; insects	-	Not rated
Escallonia	Escallonia leaf spot (Mycosphaerella species)	Dispose of affected leaves and any that have already fallen as a result of the disease. Affected plants could be cut back hard to stimulate new growth. The fungicide tebuconazole with trifloxystrobin (Bayer Fungus Fighter Plus) carries a label recommendation for use against 'leaf spots' on ornamental plants. Tebuconazole (Bayer Fungus Fighter Concentrate) and triticonazole (Scotts Fungus Clear Ultra and Scotts Fungus Clear Ultra Gun)	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	EC IAI	15
Euonymus	Euonymus scale (Unaspis euonymi)	No effective non-chemical treatments are available but the insects can be predated by the kidney spot ladybird, Chilocorus renipustulatus. Organic fatty acids and pyrethrins can be used, also contact synthetic sprays containing deltamethrin. The systemic neonicotinoid insecticide acetamiprid can also be used.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	-	Not rated
Fagus	General	All Fagus sp. for planting which originate from outside the UK must be accompanied by a plant passport upon entry to the UK. Suppliers must be able to supply this documentation. If possible, order plants early and quarantine in a low risk area for a period of time before planting	-	-	-
	Alder leaf beetle (Agelastica alni)	It can be impossible to control alder leaf beetle particularly on taller trees. Fortunately, although the damage they cause can be unsightly, it is something that the trees will survive.	Natural spread	-	Not rated



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
Fagus cont.	Citrus longhorn beetle (Anoplophora chinensis)	Citrus longhorn beetle is not yet in the UK. Familiarisation with the symptoms is suggested and notification of authorities essential in the event of a discovery.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	EU Annex 1	30
	Asian longhorn beetle (Anoplophora glabripennis)	Asian longhorn beetle is not yet in the UK. Familiarisation with the symptoms is suggested and notification of authorities essential in the event of a discovery.	Plants for planting (except seeds bulbs and tubers); Wood and wood products; Wood packaging material	EC IAI; EPPO A1	40
	Phytophthora kernoviae	Familiarisation with the symptoms of Phytophthora is suggested and notification of authorities essential in the event of a discovery. Improving soil drainage can greatly reduce the risk of plants succumbing to the disease. Where the disease is new or localised in the garden, affected plants should be destroyed and the soil from the root-run replaced with fresh topsoil. Replanting should be done with less susceptible species.	Soil/growing medium; Plants for planting (except seeds bulbs and tubers)	UK emergency measures	40
	Phytophthora ramorum	Familiarisation with the symptoms of Phytophthora is suggested and notification of authorities essential in the event of a discovery. Improving soil drainage can greatly reduce the risk of plants succumbing to the disease. Where the disease is new or localised in the garden, affected plants should be destroyed and the soil from the root-run replaced with fresh topsoil. Replanting should be done with less susceptible species.	Soil/growing medium; Plants for planting (except seeds bulbs and tubers)	UK Emergency legislation (unlisted)	80
Ficus	New Zealand fig longhorn (Xylotoles griseus)	Report sightings to Forestry Commission or APHA	Firewood; Wood packaging material	-	20
Fraxinus	Ash dieback (Hymenoscyphus fraxineus)	The Plant Health (Forestry) (Amendment) Order 2012 prohibits all imports of ash seeds, plants and trees, and all internal movement of ash seeds, plants and trees. Alternative native trees should be used.	Plants for planting (except seeds bulbs and tubers)	UK Plant Health Order; EPPO A2; EPPO alert list	80



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
Geranium	No significant risks	-	-	-	-
Hebe	General	All Hebe species used for planting which originate from outside the UK must be accompanied by a plant passport upon entry to the UK. Suppliers must be able to supply this documentation.	-	-	-
Hebe cont.	<i>Xylella fastidiosa</i> subsp. <i>multiplex</i>	If <i>Xylella</i> sp. are suspected you should not attempt to control the disease yourself. Collect together all available details including the host plant name, symptoms, origin, and import history and report your suspicions to the Animal and Plant Health Agency (APHA). If possible, order plants early and quarantine in a low risk area for a period of time before planting.	Plants for planting (except seeds bulbs and tubers)	ECIAI; Commission Implementing Decision 2015/789	60
Hemerocallis	Hemerocallis gall midge (<i>Contarinia quinquenotata</i>)	Pick off and destroy galled buds as soon as they are seen. Encourage other gardeners who grow daylilies in nearby gardens to do the same. Damage by this insect comes to an end by mid-July.	Insect	-	Not rated
Hemerocallis cont.	Rust (<i>Puccinia hemerocallidis</i>)	Check new plants daily for rust especially the undersides of the leaves; fungicides and pesticides are commercially available	Plants for planting (except seeds bulbs and tubers)	-	9
Heuchera	Heuchera rust (<i>Puccinia heucherae</i>)	Remove the old, senescing leaves from plants in autumn to help to prevent the fungus from overwintering. Avoiding growing heucheras in areas with poor air circulation, as high humidity and leaf wetness are favourable for infection. Remove and dispose of any affected foliage – do not compost it.	Fungal	-	Not rated



Specifying plants with confidence continued

Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
Ilex	Honey fungus (Armillaria spp.)	If honey fungus is confirmed, the only effective remedy is to excavate and destroy, by burning or landfill, all of the infected root and stump material. To prevent honey fungus spreading to unaffected areas, a physical barrier such as a 45cm (18in) deep vertical strip of butyl rubber (pond lining) or heavy duty plastic sheet buried in the soil will block the rhizomorphs. Avoid the most susceptible plants and instead use plants that are rarely recorded as being affected by honey fungus.	Fungal	-	Not rated
Ilex cont.	Holly leaf blight (Phytophthora ilicis)	Familiarisation with the symptoms of Phytophthora is suggested and notification of authorities essential in the event of a discovery. Cut out infected areas as soon as they are detected, collect all fallen infected leaves and burn or remove to land fill. Improving soil drainage can greatly reduce the risk of plants succumbing to the disease. Where the disease is new or localised in the garden, affected plants should be destroyed and the soil from the root-run replaced with fresh topsoil. Replanting should be done with less susceptible species.	Water	-	Not rated
Juglans	Thousand Cankers Disease (Geosmithia morbida)	Spread by the walnut twig beetle, first described in USA in 2010, found in Italy 2013. No treatment except destruction of tree to contain disease.	Plants for planting (except seeds bulbs and tubers); Non-squared wood; Wood packaging material; Firewood	-	16
Larix	General	All Larix sp. used for planting which originate from outside the UK must be accompanied by a plant passport upon entry to the UK. Suppliers must be able to supply this documentation.	-		-
Larix cont.	Pinewood nematode (Bursaphelenchus xylophilus)	Notify Forestry Commission or APHA	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers); Non-squared wood	Emergency measures	30



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
	Phytophthora ramorum	If possible, order plants early and quarantine in a low risk area for a period of time before planting. Familiarisation with the symptoms of Phytophthora is suggested and notification of authorities essential in the event of a discovery. Improving soil drainage can greatly reduce the risk of plants succumbing to the disease. Where the disease is new or localised in the garden, affected plants should be destroyed and the soil from the root-run replaced with fresh topsoil. Replanting should be done with less susceptible species.	Soil/growing medium; Plants for planting (except seeds bulbs and tubers)	UK Emergency legislation (unlisted)	80
	Pine processionary moth (Thaumetopoea pityocampa)	All imports of pine plants must be accompanied by a plant passport, which certifies that the plants have been grown in a PPM-free place of production (such as a nursery and its surrounding area), a PPM-free area or a PPM-free country. An additional protection, which was already in place, is the requirement to notify pending landings of pine plants to the UK plant health authorities, to enable inspection.	Plants for planting (except seeds bulbs and tubers)	EU Protected Zone for the UK	60
Lavandula	General	All Lavandula used for planting which originate from outside the UK must be accompanied by a plant passport upon entry to the UK. Suppliers must be able to supply this documentation.	-	-	-
	Xylella fastidiosa subsp. multiplex	If Xylella sp. are suspected you should not attempt to control the disease yourself. Collect together all available details including the host plant name, symptoms, origin, and import history and report your suspicions to the Animal and Plant Health Agency (APHA). If possible, order plants early and quarantine in a low risk area for a period of time before planting.	Plants for planting (except seeds bulbs and tubers)	ECIAI; Commission Implementing Decision 2015/789	60



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
Ligustrum	Honey fungus (Armillaria spp.)	If honey fungus is confirmed, the only effective remedy is to excavate and destroy, all of the infected root and stump material. To prevent honey fungus spreading to unaffected areas, a physical barrier such as a 45cm (18in) deep vertical strip of butyl rubber (pond lining) or heavy duty plastic sheet buried in the soil will block the rhizomorphs. Avoid the most susceptible plants and instead use plants that are rarely recorded as being affected by honey fungus.	Fungal	-	Not rated
Liquidambar	General	All Liquidambar species used for planting which originate from outside the UK must be accompanied by a plant passport upon entry to the UK. Suppliers must be able to supply this documentation.	-	-	-
	Honey fungus (Armillaria spp.)	If honey fungus is confirmed, the only effective remedy is to excavate and destroy, by burning or landfill, all of the infected root and stump material. To prevent honey fungus spreading to unaffected areas, a physical barrier such as a 45cm (18in) deep vertical strip of butyl rubber (pond lining) or heavy duty plastic sheet buried in the soil will block the rhizomorphs. Avoid the most susceptible plants and instead use plants that are rarely recorded as being affected by honey fungus.	Fungal	-	Not rated
	Xylella fastidiosa subsp. multiplex	If Xylella sp. are suspected you should not attempt to control the disease yourself. Collect together all available details including the host plant name, symptoms, origin, and import history and report your suspicions to the Animal and Plant Health Agency (APHA). If possible, order plants early and quarantine in a low risk area for a period of time before planting.	Plants for planting (except seeds bulbs and tubers)	ECIAI; Commission Implementing Decision 2015/789	60



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
Liriodendron tulipifera	Phytophthora kernoviae	Familiarisation with the symptoms of Phytophthora is suggested and notification of authorities essential in the event of a discovery. Improving soil drainage can greatly reduce the risk of plants succumbing to the disease. Where the disease is new or localised in the garden, affected plants should be destroyed and the soil from the root-run replaced with fresh topsoil. Replanting should be done with less susceptible species.	Soil/growing medium; Plants for planting (except seeds bulbs and tubers)	UK emergency measures	40
Liriope	No significant risks	-	-	-	-
Lonicera	No significant risks	-	-	-	-
Magnolia	Honey fungus (Armillaria spp.)	If honey fungus is confirmed, the only effective remedy is to excavate and destroy, by burning or landfill, all of the infected root and stump material. To prevent honey fungus spreading to unaffected areas, a physical barrier such as a 45cm (18in) deep vertical strip of butyl rubber (pond lining) or heavy duty plastic sheet buried in the soil will block the rhizomorphs. Avoid the most susceptible plants and instead use plants that are rarely recorded as being affected by honey fungus.	Fungal	-	Not rated
Magnolia cont.	Phytophthora ramorum	Familiarisation with the symptoms of Phytophthora is suggested and notification of authorities essential in the event of a discovery. Improving soil drainage can greatly reduce the risk of plants succumbing to the disease. Where the disease is new or localised in the garden, affected plants should be destroyed and the soil from the root-run replaced with fresh topsoil. Replanting should be done with less susceptible species.	Soil/growing medium; Plants for planting (except seeds bulbs and tubers)	UK Emergency legislation (unlisted)	80
Malus	General	Imports of Malus from outside the EU may be temporarily banned from December 2019. Decision due imminently.	-	-	-



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
Malus	Citrus longhorn beetle (Anoplophora chinensis)	Citrus longhorn beetle is not yet in the UK. However, familiarisation with the symptoms is suggested and notification of authorities essential in the event of a discovery.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	EU Annex 1	30
Malus cont.	Honey fungus (Armillaria spp.)	If honey fungus is confirmed, the only effective remedy is to excavate and destroy, by burning or landfill, all of the infected root and stump material. To prevent honey fungus spreading to unaffected areas, a physical barrier such as a 45cm (18in) deep vertical strip of butyl rubber (pond lining) or heavy duty plastic sheet buried in the soil will block the rhizomorphs. Avoid the most susceptible plants and instead use plants that are rarely recorded as being affected by honey fungus.	Fungal	-	Not rated
	Fireblight (Erwinia amylovora)	Prune out and burn infections promptly, peeling back the bark to reveal the brown staining and cutting back 30cm (1ft) to healthy wood in smaller branches, 60cm (2ft) in larger ones. Wipe pruning tools with disinfectant (Jeyes Fluid or methylated spirit) between cuts to avoid spreading the bacteria. Remove secondary, late blossoms before they open.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	UK (Part) Protected Zone	16
Malus cont.	Apple canker (Nectaria ditissima)	Seek specialist advice. Disease monitoring is important; canker control is difficult as the lifecycle and epidemiology allow the fungus to produce spores all year round and there are suitable entry points for infection on the apple tree all year round as well. Although the limiting factor is rain and wet seasons, particularly wet autumns, usually result in significant canker incidence in orchards and fruit, other factors may affect the susceptibility of the tree to canker, including variety, rootstock, soil type, soil water content, pruning and fertilizer regime.	-	-	Not rated
Miscanthus	No significant risks	-	-	-	-



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
Narcissus	Stem and bulb eelworm (Ditylenchus dipsaci)	Purchase nematode free plant material and practice good sanitation practices in the garden	Fruits or vegetables; Seeds; Bulbs or tubers	EU Annex II	30
Olea	General	All Olea species used for planting which originate from outside the UK must be accompanied by a plant passport upon entry to the UK. Suppliers must be able to supply this documentation.	-	-	-
Olea cont.	Xylella fastidiosa subsp. multiplex	If Xylella sp. are suspected you should not attempt to control the disease yourself. Collect together all available details including the host plant name, symptoms, origin, and import history and report your suspicions to the Animal and Plant Health Agency (APHA). If possible, order plants early and quarantine in a low risk area for a period of time before planting.	Plants for planting (except seeds bulbs and tubers)	ECIAI; Commission Implementing Decision 2015/789	60
Ophiopogon	No significant risks	-	-	-	-
Pachysandra	Volutella blight (Pseudonectria buxi)	Not a serious disease and improving cultural conditions will usually lead to plant recovery. Diseased branches should be pruned out when the foliage is dry, and old fallen leaves removed from the interior of affected plants.	P. buxi requires wounds for infection and is associated with environmental stress or clipping in wet weather.	-	Not rated
Pelargonium	Pelargonium rust (Puccinia pelargonii-zonalis)	Keep the greenhouse well ventilated to improve air circulation and reduce humidity. Avoid prolonged periods of leaf wetness	-	-	Not rated
Perovskia	No significant risks	-	-	-	-
Phlomis	No significant risks	-	-	-	-



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
Phormium	Phormium mealybug (Balanococcus diminutus)	Mealybugs are concealed at the base of leaves or where leaf margins are folded together. Products currently available to home gardeners is likely to give effective control. Destroy and replace infected plants	Plant propagation and movement	-	Not rated
Photinia	Fireblight (Erwinia amylovora)	Prune out and burn infections promptly, peeling back the bark to reveal the brown staining and cutting back 30cm (1ft) to healthy wood in smaller branches, 60cm (2ft) in larger ones. Wipe pruning tools with disinfectant (Jeyes Fluid or methylated spirit) between cuts to avoid spreading the bacteria. Remove secondary, late blossoms before they open.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	UK (Part) Protected Zone	16
Picea	Pinewood nematode (Bursaphelenchus xylophilus)	Notify Forestry Commission or APHA	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers); Non-squared wood	Emergency measures	30
	Eight-toothed European spruce bark beetle (Ips typographus)	All Picea sp. used for planting which originate from outside the UK must be accompanied by a plant passport upon entry to the UK. Suppliers must be able to supply this documentation. If possible, order plants early and quarantine in a low risk area for a period of time before planting	Plants for planting (except seeds bulbs and tubers); Wood packaging material; Non-squared wood	UK (All) Protected Zone	40
Pinus	Pinewood nematode (Bursaphelenchus xylophilus)	Notify Forestry Commission or APHA	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers); Non-squared wood	Emergency measures	30
	Dothistroma needle blight	All Pinus specimens for planting which originate from outside the UK must be accompanied by a plant passport upon entry to the UK. Suppliers must be able to supply this documentation. If possible, order plants early and quarantine in a low risk area for a period of time Before planting	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	EU Annex II	30



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
Pinus cont.	Pine processionary moth (Thaumetopoea pityocampa)	All imports of pine plants must be accompanied by a plant passport, which certifies that the plants have been grown in a PPM-free place of production (such as a nursery and its surrounding area), a PPM-free area or a PPM-free country. An additional protection, which was already in place, is the requirement to notify pending landings of pine plants to the UK plant health authorities, to enable inspection.	Plants for planting (except seeds bulbs and tubers)	EU Protected Zone for the UK	60
Platanus	General	All Platanus species used for planting which originate from outside the UK must be accompanied by a plant passport upon entry to the UK. Suppliers must be able to supply this documentation.	-	-	-
	Citrus longhorn beetle (Anoplophora chinensis)	Citrus longhorn beetle is not yet in the UK. However, familiarisation with the symptoms is suggested and notification of relevant authorities essential in the event of a discovery.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	EU Annex 1	30
	Asian longhorn beetle (Anoplophora glabripennis)	Asian longhorn beetle is not yet in the UK. Familiarisation with the symptoms is suggested and notification of authorities essential in the event of a discovery.	Plants for planting (except seeds bulbs and tubers); Wood and wood products; Wood packaging material	EC IAI; EPPO A1	40
Platanus cont.	Canker stain of plane; plane wilt (Ceratocystis platani)	Ceratocystis is not believed to be present in the UK at the moment. However, Since 2014 the UK has held EU Protected Zone Status (PZS) for Ceratocystis, requiring robust controls relating to importations of plane trees and ensuring that planes can only be imported from other areas which have been designated free of the disease. PZS surveys for CSP are carried out annually in the UK.	Plants for planting (except seeds bulbs and tubers)	EU Annex II; UK Protected Zone	40
	Massaria (Splanchnonema platani)	The dead wood has to be removed before it becomes an unacceptable hazard. The fungus had long been considered to be a weak parasite, and only capable of causing minor damage, although further research is being conducted. It is frequently found on dead twigs and bark which have already been killed by other organisms or non-living causes.	Plants for planting (except seeds bulbs and tubers); Natural spread	-	24



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
	Xylella fastidiosa subsp. multiplex	If Xylella sp. are suspected you should not attempt to control the disease yourself. Collect together all available details including the host plant name, symptoms, origin, and import history and report your suspicions to the Animal and Plant Health Agency (APHA). If possible, order plants early and quarantine in a low risk area for a period of time before planting.	Plants for planting (except seeds bulbs and tubers)	ECIAI; Commission Implementing Decision 2015/789	60
Polygala	General	All Polygala species used for planting which originate from outside the UK must be accompanied by a plant passport upon entry to the UK. Suppliers must be able to supply this documentation.	-	-	-
	Xylella fastidiosa subsp. multiplex	If Xylella sp. are suspected you should not attempt to control the disease yourself. Collect together all available details including the host plant name, symptoms, origin, and import history and report your suspicions to the Animal and Plant Health Agency (APHA). If possible, order plants early and quarantine in a low risk area for a period of time before planting.	Plants for planting (except seeds bulbs and tubers)	ECIAI; Commission Implementing Decision 2015/789	60
Populus	Citrus longhorn beetle (Anoplophora chinensis)	If possible, order plants early and quarantine in a low risk area for a period of time before planting.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	EU Annex 1	30
	Asian longhorn beetle (Anoplophora glabripennis)	Asian longhorn beetle is not yet in the UK. Familiarisation with the symptoms is suggested and notification of authorities essential in the event of a discovery.	Plants for planting (except seeds bulbs and tubers); Wood and wood products; Wood packaging material	EC IAI; EPPO A1	40
Potentilla	No significant risks	-	-	-	-
Prunus	General	All Prunus species used for planting which originate from outside the UK must be accompanied by a plant passport upon entry to the UK. Suppliers must be able to supply this documentation.	-	-	-



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
Prunus cont.	Citrus longhorn beetle (Anoplophora chinensis)	Citrus longhorn beetle is not yet in the UK. However, familiarisation with the symptoms is suggested and notification of relevant authorities essential in the event of a discovery.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	EU Annex 1	30
	Asian longhorn beetle (Anoplophora glabripennis)	Asian longhorn beetle is not yet in the UK. However, familiarisation with the symptoms is suggested and notification of relevant authorities essential in the event of a discovery.	Plants for planting (except seeds bulbs and tubers); Wood and wood products; Wood packaging material	EC IAI; EPPO A1	40
	Honey fungus (Armillaria spp.)	If honey fungus is confirmed, the only effective remedy is to excavate and destroy, by burning or landfill, all of the infected root and stump material. To prevent honey fungus spreading to unaffected areas, a physical barrier such as a 45cm (18in) deep vertical strip of butyl rubber (pond lining) or heavy duty plastic sheet buried in the soil will block the rhizomorphs. Avoid the most susceptible plants and instead use plants that are rarely recorded as being affected by honey fungus.	-	-	-
Prunus cont.	Wood Boring Longhorn Beetle (Aromia bungii)	Prunus species used for planting which originate from outside the UK must be accompanied by a plant passport upon entry to the UK. Suppliers must be able to supply this documentation.	Plants for planting (except seeds bulbs and tubers)	UK general powers (unlisted)	48
	Silver leaf (Chondrostereum purpureum)	Where silver leaf develops the affected branch should be removed as soon as possible, certainly before the fungal fruiting bodies appear. The branch should be cut off, where possible, at a point 10-15cm (4-6in) beyond the area where the staining in the internal tissues ceases. Cutting equipment should be disinfected regularly. Dispose of the pruned material immediately, as fruiting bodies will still form if it is left lying around.	Fungal	-	Not rated
	Fireblight (Erwinia amylovora)	Prunus species used for planting which originate from outside the UK must be accompanied by a plant passport upon entry to the UK. Suppliers must be able to supply this documentation.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	UK (Part) Protected Zone	16



Specifying plants with confidence continued

Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
Prunus cont.	Bacterial canker (<i>Pseudomonas syringae</i> pv. <i>Persicae</i>)	Carry out all pruning in July or August when tissues are most resistant. Not only are there fewer spores at this season but pruning wounds, the main point of entry for the spores, heal more quickly. Painting wounds of susceptible trees with protective wound paint can provide some protection. If possible, order plants early and quarantine in a low risk area for a period of time before planting.	Plants for planting (except seeds bulbs and tubers)	EC II/II ; EPPO A2	1
	<i>Xylella fastidiosa</i> subsp. <i>multiplex</i>	If <i>Xylella</i> sp. are suspected you should not attempt to control the disease yourself. Collect together all available details including the host plant name, symptoms, origin, and import history and report your suspicions to the Animal and Plant Health Agency (APHA). If possible, order plants early and quarantine in a low risk area for a period of time before planting.	Plants for planting (except seeds bulbs and tubers)	EC/IAI; Commission Implementing Decision 2015/789	60
<i>Pseudotsuga</i>	Pinewood nematode (<i>Bursaphelenchus xylophilus</i>)	Notify Forestry Commission or APHA	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers); Non-squared wood	Emergency measures	30
<i>Pyracantha</i>	General	All <i>Pyracantha</i> sp used for planting which originate from outside the UK must be accompanied by a plant passport upon entry to the UK. Suppliers must be able to supply this documentation.	-	-	-
	Fireblight (<i>Erwinia amylovora</i>)	Prune out and burn infections promptly, peeling back the bark to reveal the brown staining and cutting back 30cm (1ft) to healthy wood in smaller branches, 60cm (2ft) in larger ones. Wipe pruning tools with disinfectant (Jeyes Fluid or methylated spirit) between cuts to avoid spreading the bacteria.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	UK (Part) Protected Zone	16



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
	Phytophthora ramorum	If possible, order plants early and quarantine in a low risk area for a period of time before planting. Familiarisation with the symptoms of Phytophthora is suggested and notification of authorities essential in the event of a discovery. Improving soil drainage can greatly reduce the risk of plants succumbing to the disease. Where the disease is new or localised in the garden, affected plants should be destroyed and the soil from the root-run replaced with fresh topsoil.	Soil/growing medium; Plants for planting (except seeds bulbs and tubers)	UK Emergency legislation (unlisted)	80
Pyrus	General	All Pyrus species for planting which originate from outside the UK must be accompanied by a plant passport upon entry to the UK. Suppliers must be able to supply this documentation.	-	-	-
	Citrus longhorn beetle (Anoplophora chinensis)	Citrus longhorn beetle is not yet in the UK. However, familiarisation with the symptoms is suggested and notification of relevant authorities essential in the event of a discovery.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	EU Annex 1	30
	Honey fungus (Armillaria spp.)	If honey fungus is confirmed, the only effective remedy is to excavate and destroy, by burning or landfill, all of the infected root and stump material. To prevent honey fungus spreading to unaffected areas, a physical barrier such as a 45cm (18in) deep vertical strip of butyl rubber (pond lining) or heavy duty plastic sheet buried in the soil will block the rhizomorphs. Avoid the most susceptible plants and instead use plants that are rarely recorded as being affected by honey fungus.	-	-	-
	Pear blister mite (Eriophyes pyri)	If possible, order plants early and quarantine in a low risk area for a period of time before planting	-	-	Not rated
Quercus	General	Quercus specimens for planting which originate from outside the UK must be accompanied by a plant passport upon entry to the UK. Suppliers must be able to supply this documentation. If possible, order plants early and quarantine in a low risk area for a period of time before planting	-	-	-



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
	Acute oak decline	The presence of large numbers of oak trees with extensive bleeding should be reported to the Tree Health Diagnostic Advisory Service of Forest Research (part of the Forestry Commission) – this will help in their investigation of the problem. Acute oak decline is not a notifiable disease.	Squared wood; Non-squared wood	-	75
	Citrus longhorn beetle (<i>Anoplophora chinensis</i>)	Citrus longhorn beetle is not yet in the UK. However, familiarisation with the symptoms is suggested and notification of relevant authorities essential in the event of a discovery.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	EU Annex 1	30
	Asian longhorn beetle (<i>Anoplophora glabripennis</i>)	Asian longhorn beetle is not yet in the UK. Familiarisation with the symptoms is suggested and notification of authorities essential in the event of a discovery.	Plants for planting (except seeds bulbs and tubers); Wood and wood products; Wood packaging material	EC IAI; EPPO A1	40
<i>Quercus</i> cont.	Chronic oak dieback (<i>Q. robur</i> particularly affected) NB not to be confused with Acute Oak Decline (AOD)	Caused by a range of contributing factors, so control depends on the specific or most likely cause of dieback. Dieback occurs in oak trees when a number of damaging agents or events combine to weaken branches or trees. They are then susceptible to opportunistic attack from insects and diseases, or dieback caused by physiological stress or physical damage.	-	-	Not rated
<i>Quercus</i> (esp <i>Q. ilex</i> , <i>Q. petraea</i> , <i>Q. robur</i>)	Sweet chestnut blight (<i>Cryphonectria parasitica</i>)	If possible, order plants early and quarantine in a low risk area for a period of time before planting	Plants for planting (except seeds bulbs and tubers)	Annex IIB (UK protected zone) and plant passporting reqs	30
	<i>Phytophthora kernoviae</i>	Familiarisation with the symptoms of <i>Phytophthora</i> is suggested and notification of authorities essential in the event of a discovery. Improving soil drainage can greatly reduce the risk of plants succumbing to the disease. Where the disease is new or localised in the garden, affected plants should be destroyed and the soil from the root-run replaced with fresh topsoil. Replanting should be done with less susceptible species.	Soil/growing medium; Plants for planting (except seeds bulbs and tubers)	UK emergency measures	40



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
Quercus cont.	Phytophthora ramorum	Familiarisation with the symptoms of Phytophthora is suggested and notification of authorities essential in the event of a discovery. Improving soil drainage can greatly reduce the risk of plants succumbing to the disease. Where the disease is new or localised in the garden, affected plants should be destroyed and the soil from the root-run replaced with fresh topsoil. Replanting should be done with less susceptible species.	Soil/growing medium; Plants for planting (except seeds bulbs and tubers)	UK Emergency legislation (unlisted)	80
Quercus (esp Q. ilex)	Oak pinhole borer (Platypus cylindrus)	If possible, order plants early and quarantine in a low risk area for a period of time before planting.	Natural spread; Non-squared wood; Firewood	-	30
Quercus (except Q. suber)	Oak processionary moth (Thaumetopoea processionea)	With the exception of the local authority areas noted in the link below, no Quercus specimens with a girth at 1.2m above the root collar of more than 8cm may be introduced to any area within the UK.	Roundwood of oak with bark present; Plants for planting (except seeds bulbs and tubers)	EU Annex IB; UK Partial Protected Zone	45
Quercus (esp Q. suber, Q. rubra, Q. robur)	Xylella fastidiosa subsp. multiplex	If Xylella sp. are suspected you should not attempt to control the disease yourself. Collect together all available details including the host plant name, symptoms, origin, and import history and report your suspicions to the Animal and Plant Health Agency (APHA). If possible, order plants early and quarantine in a low risk area for a period of time before planting.	Plants for planting (except seeds bulbs and tubers)	ECIAI; Commission Implementing Decision 2015/789	60
Rhododendron ponticum	Phytophthora ramorum	Familiarisation with the symptoms of Phytophthora is suggested and notification of authorities essential in the event of a discovery. Improving soil drainage can greatly reduce the risk of plants succumbing to the disease. Where the disease is new or localised in the garden, affected plants should be destroyed and the soil from the root-run replaced with fresh topsoil. Replanting should be done with less susceptible species.	Soil/growing medium; Plants for planting (except seeds bulbs and tubers)	UK Emergency legislation (unlisted)	80



Specifying plants with confidence continued

Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
Rosa	Honey fungus (Armillaria spp.)	If honey fungus is confirmed, the only effective remedy is to excavate and destroy, by burning or landfill, all of the infected root and stump material. To prevent honey fungus spreading to unaffected areas, a physical barrier such as a 45cm (18in) deep vertical strip of butyl rubber (pond lining) or heavy duty plastic sheet buried in the soil will block the rhizomorphs. Avoid the most susceptible plants and instead use plants that are rarely recorded as being affected by honey fungus.	-	-	-
	Ralstonia (Ralstonia solanacearum)	Notify Forestry Commission or APHA	Plants for planting; Bulbs or tubers	Commission Directive 2008/61/ EC Council Directive 98/57/EC and Commission Implementing Decision 2011/787/EU	20
Rosmarinus	General	Rosmarinus officinalis used for planting which originates from outside the UK must be accompanied by a plant passport upon entry to the UK. Suppliers must be able to supply this documentation.	-	-	-
	Xylella fastidiosa subsp. multiplex	If Xylella sp. are suspected you should not attempt to control the disease yourself. Collect together all available details including the host plant name, symptoms, origin, and import history and report your suspicions to the Animal and Plant Health Agency (APHA). If possible, order plants early and quarantine in a low risk area for a period of time before planting.	Plants for planting (except seeds bulbs and tubers)	ECIAI; Commission Implementing Decision 2015/789	60



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
Rudbeckia	Aster yellows (Candidatus asteris)	The incidence of aster yellows (AY) disease can be reduced significantly if proper attention is given to all control measures. These mainly include the use of healthy plant material, eradication of perennial or biennial weed hosts from the field, roadways and fences, control of the leafhopper vectors in the crop and on weeds with insecticides as early in the season as possible and avoidance of planting a susceptible crop next to a crop harbouring the pathogens.	Plants for planting; insects	-	Not rated
Rudbeckia	Verticillium Wilt (Verticillium dahliae and V. albo-atrum)	The fungus can be spread in contaminated soil, so if the disease is suspected, be careful not to spread soil from around the affected plants on tools or muddy boots. Remove the infected plant with as much root system as possible and destroy. Consider grassing over the area for at least fifteen years, or plant a resistant replacement. Heavy watering and application of ammonium-based fertilisers (nitrogenous) may stimulate the production of new conducting tissue in woody plants and help them recover. Plant less susceptible genera.	Plants for planting (except seeds bulbs and tubers)	EC II/II	16
Salix	Citrus longhorn beetle (Anoplophora chinensis)	Citrus longhorn beetle is not yet in the UK. However, familiarisation with the symptoms is suggested and notification of relevant authorities essential in the event of a discovery.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	EU Annex 1	30
	Asian longhorn beetle (Anoplophora glabripennis)	Asian longhorn beetle is not yet in the UK. Familiarisation with the symptoms is suggested and notification of authorities essential in the event of a discovery.	Plants for planting (except seeds bulbs and tubers); Wood and wood products; Wood packaging material	EC I/II; EPPO A1	40
Sorbus	Asian longhorn beetle (Anoplophora glabripennis)	Asian longhorn beetle is not yet in the UK. Familiarisation with the symptoms is suggested and notification of authorities essential in the event of a discovery.	Plants for planting (except seeds bulbs and tubers); Wood and wood products; Wood packaging material	EC I/II; EPPO A1	40



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
Sorbus cont.	Silver leaf (Chondrostereum purpureum)	Where silver leaf develops the affected branch should be removed as soon as possible, certainly before the fungal fruiting bodies appear. The branch should be cut off, where possible, at a point 10-15cm (4-6in) beyond the area where the staining in the internal tissues ceases. Cutting equipment should be disinfected regularly. Dispose of the pruned material immediately, as fruiting bodies will still form if it is left lying around.	Fungal	-	Not rated
	Fireblight (Erwinia amylovora)	Prune out and burn infections promptly, peeling back the bark to reveal the brown staining and cutting back 30cm (1ft) to healthy wood in smaller branches, 60cm (2ft) in larger ones. Wipe pruning tools with disinfectant (Jeyes Fluid or methylated spirit) between cuts to avoid spreading the bacteria. Remove secondary, late blossoms before they open.	Cut flowers or branches; Plants for planting (except seeds bulbs and tubers)	UK (Part) Protected Zone	16
Stipa	No significant risks	-	-	-	-
Taxus	Phytophthora ramorum	Familiarisation with the symptoms of Phytophthora is suggested and notification of authorities essential in the event of a discovery. Improving soil drainage can greatly reduce the risk of plants succumbing to the disease. Where the disease is new or localised in the garden, affected plants should be destroyed and the soil from the root-run replaced with fresh topsoil. Replanting should be done with less susceptible species.	Soil/growing medium; Plants for planting (except seeds bulbs and tubers)	UK Emergency legislation (unlisted)	80
Tilia	Canker (P. cactorum and P. plurivora)	Monitor trees with light to moderate bleeding and vigorous crowns, unless there are immediate concerns for safety – some trees may recover. Small trees are more likely to succumb to the disease because they can be girdled in less time than larger specimens, so the removal of young trees is a justifiable precaution. Avoid pruning or cutting out infected bark and do not disturb the soil around trees or apply fertilisers	Water	-	Not rated



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
	Verticillium Wilt (Verticillium dahliae and V. albo-atrum)	The fungus can be spread in contaminated soil, so if the disease is suspected, be careful not to spread soil from around the affected plants on tools or muddy boots. Remove the infected plant with as much root system as possible and destroy. Consider grassing over the area for at least fifteen years, or plant a resistant replacement. Heavy watering and application of ammonium-based fertilisers (nitrogenous) may stimulate the production of new conducting tissue in woody plants and help them recover. Plant less susceptible genera.	Plants for planting (except seeds bulbs and tubers)	EC II/III	16
Verbena	No significant risks	-	-	-	-
Viburnum	General	All Viburnum sp used for planting which originate from outside the UK must be accompanied by a plant passport upon entry to the UK. Suppliers must be able to supply this documentation.	-	-	-
Viburnum cont.	Honey fungus (Armillaria spp.)	If honey fungus is confirmed, the only effective remedy is to excavate and destroy, by burning or landfill, all of the infected root and stump material. To prevent honey fungus spreading to unaffected areas, a physical barrier such as a 45cm (18in) deep vertical strip of butyl rubber (pond lining) or heavy duty plastic sheet buried in the soil will block the rhizomorphs. Avoid the most susceptible plants and instead use plants that are rarely recorded as being affected by honey fungus.	-	-	Not rated



Plant genus or species	Pests or pathogens	Control or mitigation measures	Pathways	Policy and regulations	Risk Rating
	Viburnum beetle (Pyrrhalta viburni)	Larvae are normally too numerous to hand pick so attacks may have to be tolerated. Although plants can look tatty they usually survive even the most severe defoliation.	Plants for planting (except seeds bulbs and tubers)	-	Not rated
Viburnum cont.	Phytophthora ramorum	If possible, order plants early and quarantine in a low risk area for a period of time before planting. Familiarisation with the symptoms of Phytophthora is suggested and notification of authorities essential in the event of a discovery. Improving soil drainage can greatly reduce the risk of plants succumbing to the disease. Where the disease is new or localised in the garden, affected plants should be destroyed and the soil from the root-run replaced with fresh topsoil. Replanting should be done with less susceptible species.	Soil/growing medium; Plants for planting (except seeds bulbs and tubers)	UK Emergency legislation (unlisted)	80



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