



# Challenges with vine weevil control and how to improve control strategies on the nursery

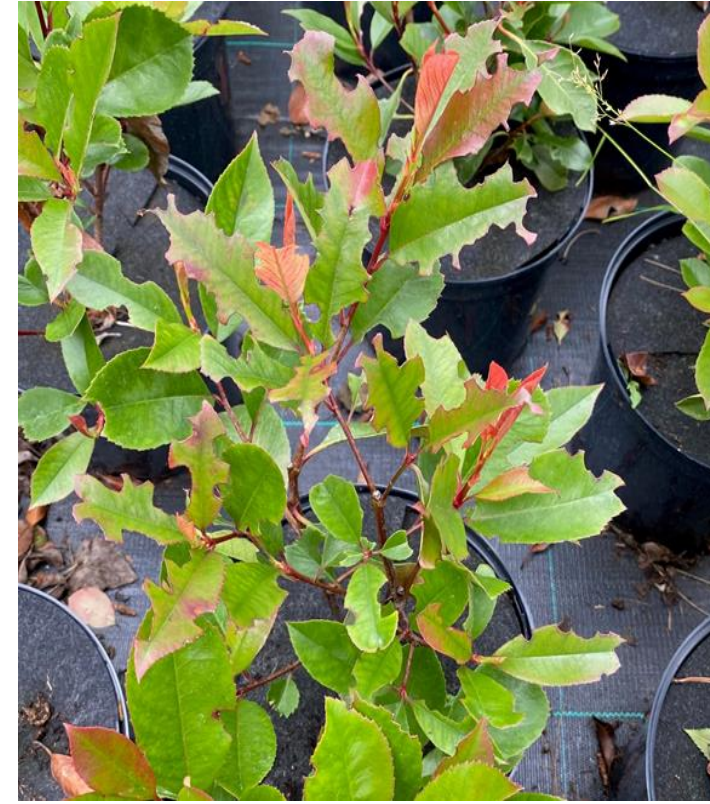
Selchuk Kurtev, Zest Sustainable ICM

# What I will cover

- **Nursery hygiene**
- **Monitoring and stock age management**
- **Crop protection planning**
- **Adult vine weevil control**
- **Larvae control and nematodes**



# Nursery hygiene





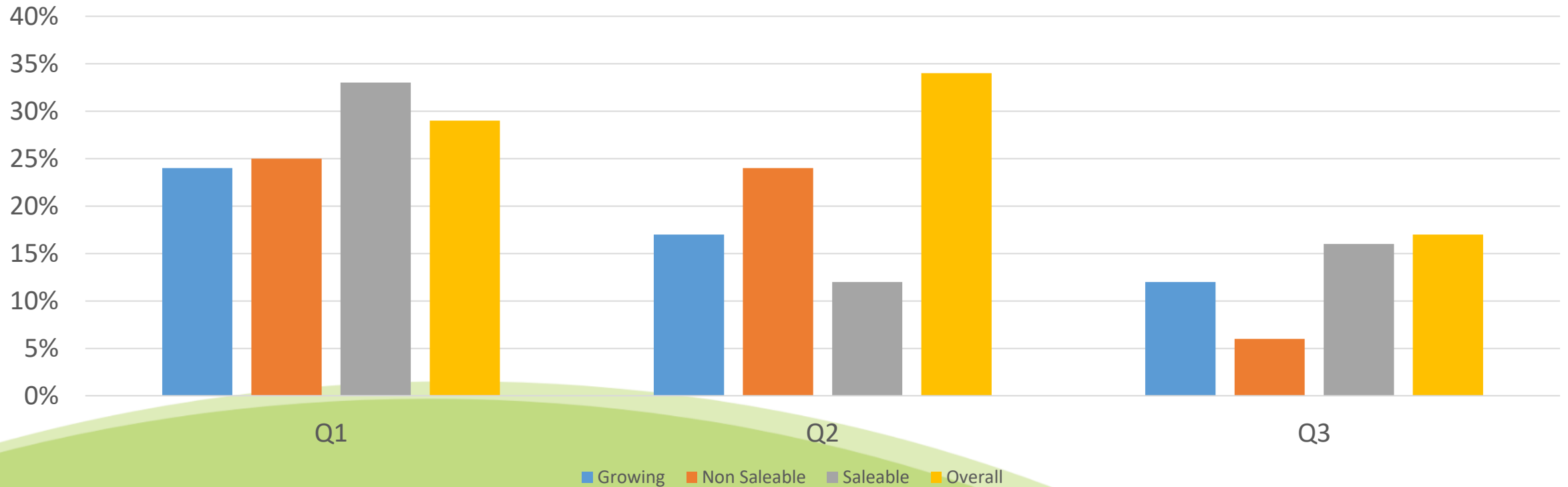
# Nursery hygiene



# Stock age management and monitoring



Percentage of aged stock carry over on quarterly basis  
(indoors)





# Stock age management and monitoring

- Trapping from May to August for adults
- Evening walks are useful
- Check last year's crops mainly and susceptible species
- Physical barriers and mulches



# Stock age management and monitoring

- Mother stock and hedgerows
- Set aside aged stock area if possible
- Goods inwards check is crucial

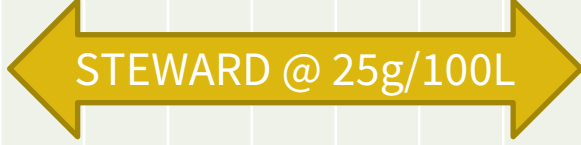




# Crop protection planning

- Target specific crops based on age and susceptibility for adult sprays
- Be strict with the use monitoring regime to time the insecticides better
- Check your irrigation cycles and allow for longer periods after spraying
- If using Nematop Traps, make sure you move them every 5-7 days
- Use appropriate spray equipment for nematodes or biopesticides
- Order plant protection products in advance
- Nematodes ideally order week ahead
- Availability of labour



# Crop protection planning

		MAY					JUNE					JULY				AUGUST				SEPTEMBER				OCTOBER			
	Wk 17	Wk 18	Wk 19	Wk 20	Wk 21	Wk 22	Wk 23	Wk 24	Wk 25	Wk 26	Wk 27	Wk 28	Wk 29	Wk 30	Wk 31	Wk 32	Wk 33	Wk 34	Wk 35	Wk 36	Wk 37	Wk 38	Wk 39	Wk 40	Wk 41	Wk 42	
ADULTS								STE		STE		STE															
																											
EGGS																											
Larvae												NE				NE				NE					NE		
																											

# Adult vine weevil control

- Utilise Steward whilst we still have it!
- If unavailable, Hallmark, Botanigard WP or *S.carpocapsae* are the only options
- Check water pH with Steward, ideally 6.5
- No requirement for night application with Steward, but overhead irrigation is detrimental
- Using stickers like Bond can help
- Active feeding stage is the main timing
- Intervals ideally 7 days





# Larvae control - nematode species

## Entomopathogenic nematodes (EPNs)

- *Heterorhabditis bacteriophora* – actively seeking
- *Steinernema kraussei* – rely on accidental contact
- *Steinernema carpocapsae* – actively seeking
- *Steinernema feltiae* – actively seeking



# Larvae control - nematode species

<i>Heterorhabditis bacteriophora</i>	<i>Steinernema kraussei</i>
Media temperatures should be between <b>12°C and 30°C</b> (from Apr to Oct) for at least two weeks after application	Media temperatures should be between <b>5°C and 30°C</b> (from Nov to March) for at least two weeks after application





# Larvae control - nematode species

## *Check for efficacy*





# Nematode applications

## Action Points

- Select the nematode product according to the growing medium temperature at the time of application and for the subsequent 2-4 weeks.
- Store the nematode product in a fridge until use, and use before the 'use-by date'.
- Remove all fine filters from the application/irrigation system (smaller than 0.3mm) prior to application.
- Follow all product recommendations covering rate of use and water volume per unit area.
- Use the whole pack(s), do not split them as the nematodes can be unevenly distributed within them.
- Keep agitating the nematode suspension during mixing and application to prevent them from settling out.
- If application is via overhead irrigation, irrigate afterwards to wash any nematodes remaining on the foliage into the growing medium.
- For further details see AHDB Horticulture Factsheet 24/16 '*Vine weevil control in hardy nursery stock*' and annual reports from AHDB Horticulture project HNS 195 '*Improving vine weevil control in hardy nursery stock*'.





# Nematode applications – applying them where needed!

- Drip irrigation is much more accurate
- Overhead lines MUST be uniform and maintained well
- No blockages
- Consider replacing nozzles and upgrading the system
- Use marker dye to determine timeframe of nematodes to reach the desired production bed/area
- Apply in dull conditions
- Calculations for dosing very important
- Water volume is important
- Storage of nematodes
- Wetting agents!



**zest**

Sustainable ICM

NURSERY PRODUCTION

**Zest-ICM**

☎ 0333 005 0167

✉ [nurseryproduction@hta.org.uk](mailto:nurseryproduction@hta.org.uk)



**zest<sup>®</sup>**

Sustainable ICM

**zest<sup>®</sup>**  
Sustainable ICM