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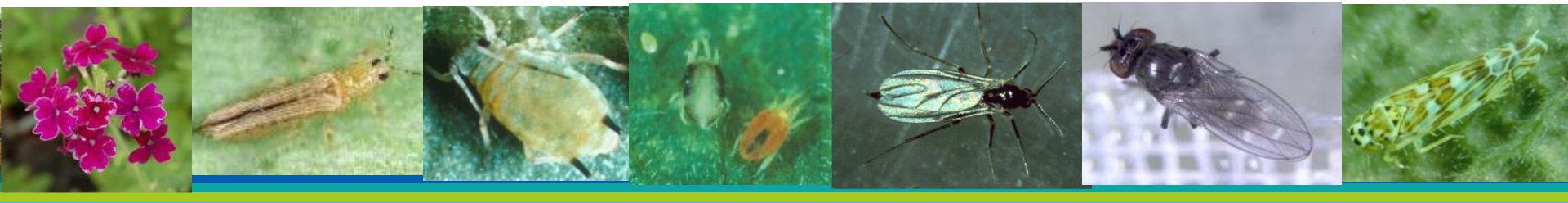

Sceptre Plus: developments with pest control on ornamentals

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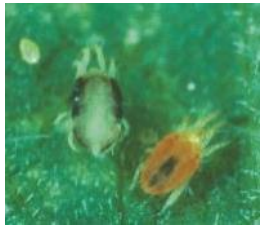
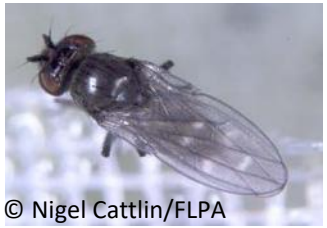
www.adas.uk

Summary of talk

- Aphids on HNS (SP 56)
- Western flower thrips on protected ornamentals (SP 15)
- Two-spotted spider mite on HNS (SP 61)
- Sciarid and shore flies on protected ornamentals (SP 23)
- Leafhopper on protected herbs (SP 58)
- Only statistically significant results of named products included (not coded products)



SP 56 aphids on HNS 2020 (ADAS)

- Melon and cotton aphid (*Aphis gossypii*)
- Peach-potato aphid (*Myzus persicae*)
- Host plant *Hebe* ‘Purple Pixie’
- Poly tunnel trial – Elysia Bartel
- 7 treatments including untreated control
- Flonicamid (Mainman) industry standard

SP 56 aphids on HNS 2020 - Results

- Most effective treatment against both aphid species not yet approved in UK – watch this space

- Eradicoat Max (maltodextrin) gave 52% reduction in *M. persicae* 3 days after 3rd application
- Applied 3 times at 5-day intervals
- Did not reduce numbers of *Aphis gossypii*
- Approved for use on all edible and non-edible crops (permanent protection) for spider mite & whitefly
- Will replace Eradicoat and Majestik (improved formulation)

SP 15 – WFT on protected ornamentals 2018 (ADAS)

- Host plant Verbena
- Glasshouse trial
- 8 treatments including water control
- Treatments started at first flower damage

SP 15 – WFT glasshouse trial 2018 - Results

No phytotoxic effects

Product	Number of applications	% reduction in WFT adults per flower compared with controls 21 DAT	% reduction in WFT adults per flower compared with controls 28 DAT	Approval status
Azatin (azadirachtin)	4 at 7-day intervals	91%	92%	Approved on ornamentals permanent protection
Mainspring (cyantraniliprole) plus Attracker (fructose, glucose & saccharose)	2 at 7-day intervals	64%	68%	Approved on ornamentals permanent protection
Flipper (fatty acids)	4 at 7-day intervals	55%	-	EAMU outdoor and protected ornamentals
Majestik (maltodextrose)	7 at 4-day intervals	88%	-	Approved on any protected crop (to be replaced by Eradicoat Max)

SP 61 – 2-spotted spider mite on HNS 2021 (Stockbridge Technology Centre)

- Host plant Choisya
- Glasshouse trial – Jennifer Banfield-Zanin
- 8 treatments including water control
- Fatty acids (Flipper) industry standard

SP 61 – 2-spotted spider mite on HNS 2021 - Results

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- Low numbers of TSSM throughout the trial even on control plots (less than 1 per plant)
- Botanigard WP (*Beauveria bassiana*) gave 96% reduction in numbers of TSSM 15 days after first treatment (7 days after 3rd treatment)
- Applied 3 times at 4-day intervals
- EAMU for use on outdoor & protected ornamentals
- No phytotoxic effects of any treatment

SP 23 – sciarid & shore flies and ‘pot worms’ on protected ornamentals 2018 & 2019 (ADAS)

- Review knowledge on current and potential control methods
- Trial on novel controls for sciarid fly
- Visit to Wageningen to discuss ‘pot worm’ research on orchids

SP 23 – sciarid & shore flies and ‘pot worms’ on protected ornamentals 2018 & 2019 – Review

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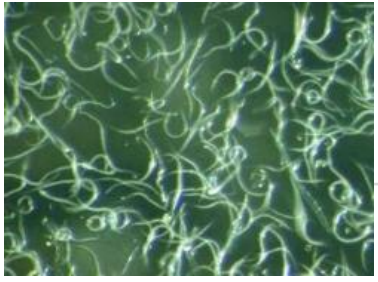
- Review completed 2018
- https://projectblue.blob.core.windows.net/media/Default/Research%20Papers/Horticulture/CP%20165_SP23_Review%20of%20control%20of%20sciarid%20and%20shore%20flies%20and%20potworms%20protected%20ornamentals.pdf
- Current options for sciarid and shore flies collated
- Potential new control methods identified
- Included commercial and natural biocontrols
- Factsheet 2022:

https://horticulture.ahdb.org.uk/knowledge-library/integrated-control-of-sciarid-and-shore-flies-in-protected-ornamental-crops



SP 23 – sciarid & shore flies and ‘pot worms’ on protected ornamentals 2018 & 2019 - Results

- Trial on novel controls for sciarid fly larvae completed 2019

  - Water -ve control
  - *Steinernema feltiae* (Nemasys) +ve control
  - *Bacillus thuringiensis* subsp. *israelensis* (Bti- Gnatrol) applied at 2 different rates
  - Azadirachtin (Azatin) HV spray
  - Garlic granules (Pitcher) added to growing media

- But too few sciarid flies in controls to give significant effects of treatments

Visit to Bleiswijk (WUR, NL) to discuss ‘pot worm’ research on orchids

- Visit with Double H staff July 2019
- Marjolein Kruidhof (WUR)
- Jude Bennison & Elysia Bartel (ADAS)

Visit to Bleiswijk (WUR, NL) to discuss ‘pot worm’ research on orchids

- https://projectblue.blob.core.windows.net/media/Default/Research%20Papers/Horticulture/CP165_SP23_Potworm_Orchid_Final_Report.pdf
- No current effective biological or chemical control for ‘pot worm’ larvae (*Lyprauta* spp.) on orchid
- Natural parasitoid *Megastylus woelkei* very effective but very difficult to rear and has not been found again since eradicating potworm on Dutch nursery

SP 58 leafhopper trial 2020 (ADAS)

- Chrysanthemum (‘sage’ leafhopper), *Eupteryx melissae*
- Host plant: sage
- Poly tunnel trial – Pete Seymour
- 7 treatments including untreated control
- Gazelle SG industry standard

SP 58 leafhopper trial 2020 - Results

- All treatments reduced leafhoppers and damage
- No phytotoxic effects

Product	No. of applications	% reduction in leafhopper adults 22 days after first treatment	Approval status
Gazelle SG (acetamiprid)	1	96%	EAMU outdoor & protected herbs Approved on outdoor & protected ornamentals
Sequioa (sulfloxaflor)	2 at 14-day intervals	63%	Approved on ornamentals permanent protection
Prev-Gold (orange oil)	3 at 7-day intervals	67%	Approved on pepper & chilli permanent protection. Expected to be extended to ornamentals
Eradicoat Max (maltodextrin)	3 at 5-day intervals	63%	Approved all crops permanent protection

SP 58 leafhopper trial 2020 – attraction to sticky traps

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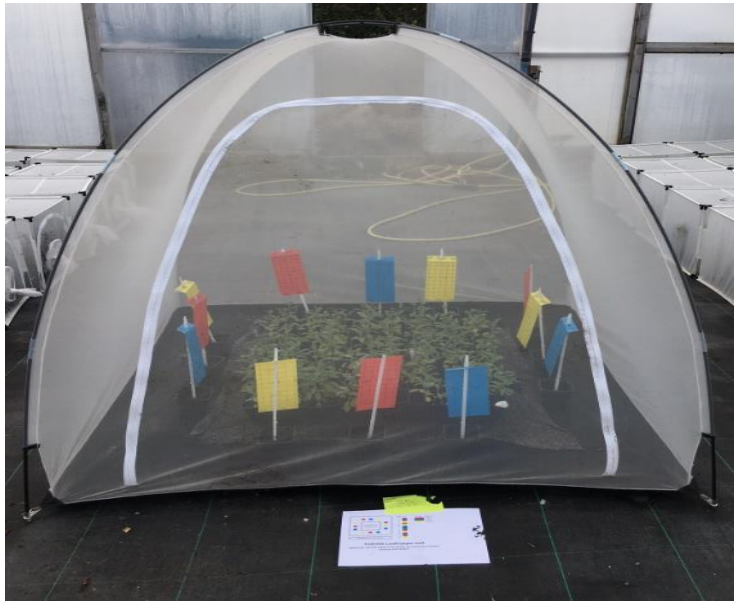

- Significantly more leafhoppers on yellow traps days 1-6
- No differences between colours days 7-12 when numbers were lower

Thanks

- AHDB
- Product manufacturers
- ADAS and STC colleagues