Biosecurity Advice

ALERT – UPDATE (#1)

Pest ***Liriomyza huidobrensis* Serpentine Leafminer**

Date
19 November 2020

Location
Greater Sydney – New South Wales

Situation
Serpentine leafminer (also known as Pea leafminer) *Liriomyza huidobrensis* has recently been found infesting field-grown vegetables in western Sydney (October 2020). New South Wales Department of Primary Industries (NSW DPI) and Greater Sydney Local Land Services (GS LLS) are mounting a response to delimit (undertake surveillance) the current distribution of the pest with an eye to eradication or containment and control. Currently infestations have been found across a number of horticulture cropping systems including production nurseries in the Greater Sydney area.

Greenlife Industry Australia (GIA) has worked with the Australian Pesticide and Veterinary Medicines Authority (APVMA) to secure a Minor Use Permit (MUP) for the management of leafminers including Serpentine leafminer (SLM). **PER88977** provides for 9 different active ingredients across 7 distinct mode of action groups for use in nursery stock when managing SLM. It is critical that production nurseries managing SLM have a clear pesticide rotation program in place, preferably, based on a minimum of 3 different active ingredients from 3 different mode of action groups. Growers can add more active ingredients into rotation if required however any additions must be from a different mode of action group to minimise pesticide resistance within the SLM population.

SLM is a highly mobile polyphagous plant pest attacking many common plant species in horticulture with data suggesting more than 250 species from 50 plant families' host SLM, however, not all of these will be true hosts allowing the completion of a full lifecycle. A significant threat associated with SLM is its ability to quickly develop populations with pesticide (insecticide) resistance to over utilised active ingredients that are constantly exposing the pest population to the same active ingredient. To maintain pesticide efficacy it is of the utmost importance that production nurseries apply an integrated approach to managing this pest including:

1. Identify across your cropping system susceptible host species and aggregate as much as possible within common growing areas allowing efficient resource allocation when managing SLM. ('*Serpentine leafminer host list*' can be found here: https://nurseryproductionfms.com.au/pests-diseases-weeds/

2. Crop monitoring – regular structured process to determine pest presence/absence and/or location and density of SLM (see BioSecure HACCP manual for crop monitoring procedure and recording templates here: https://nurseryproductionfms.com.au/)

3. Put in place a yellow sticky trap program across the susceptible host range(s) and regularly inspect traps for presence/absence of SLM (see BioSecure HACCP manual for sticky trap procedure and recording templates here: https://nurseryproductionfms.com.au/)

4. Weeds are a common host of SLM therefore ensure an effective and constant weed management program is in place, both within the crop(s) and across the production site, to limit the reproduction and reinfestation

opportunities in treated/managed crops (see BioSecure HACCP manual for site surveillance procedure and recording templates here: https://nurseryproductionfms.com.au/)

5. Use a robust pest identification resource to make sure that the correct identification is being made when crop monitoring or inspecting sticky traps (Pest ID Tool here: https://pestid.com.au/)

6. Select the appropriate insecticides for a rotation program considering least impact on beneficials, workers and the environment. Follow the MUP directions on application rate and on the number of applications per treatment cycle. Once the 'treatment cycle' is completed the next treatment must be with the second active ingredient in the rotation program and so on. Note, if the product label states 'three sprays 7 days apart' that constitutes the 'treatment cycle' which must be completely applied before moving to the next active ingredient in the rotation plan. Please find the **PER88977** here: https://nurseryproductionfms.com.au/minor-use-permits-mups-for-pesticides/

Table 1. Minor Use Permit PER88977 Active Ingredients

Active/mode of action	Trade names examples	Active/mode of action	Trade names examples
Abamectin - (Group 6 Insecticide)	SORCERER; VERTIMEC INSECTICIDE	Chlorantraniliprole + thiamethoxam - (Group 28 + 4A)	DURIVO INSECTICIDE
Azadirachtin - (Group UN Insecticide)	AZAMAX INSECTICIDE	Cyantraniliprole - (Group 28 Insecticide)	BENEVIA INSECTICIDE
Cyromazine - (Group 17 Insecticide)	DIPTEX 150 WP IGR	Indoxacarb - (Group 22A Insecticide)	AVATAR INSECTICIDE
Emamectin - (Group 6 Insecticide)	PROCLAIM OPTI INSECTICIDE	Spinetoram - (Group 5 Insecticide)	SUCCESS NEO INSECTICIDE

Table 2. Examples of Serpentine leafminer Pesticide Rotation Programs

	Pesticide Rotation #1	Pesticide Rotation #2	Pesticide Rotation #3
Example #1	Abamectin - (Group 6 Insecticide) + Azadirachin (1ml/L)	Chlorantraniliprole + thiamethoxam - (Group 28 + 4A) + Azadirachin (1ml/L)	Spinetoram - (Group 5 Insecticide) + Azadirachin (1ml/L)
Example #2	Emamectin - (Group 6 Insecticide) + Azadirachin (1ml/L)	Cyromazine - (Group 17 Insecticide) + Azadirachin (1ml/L)	Indoxacarb - (Group 22A Insecticide) + Azadirachin (1ml/L)
Example #3	Cyantraniliprole - (Group 28 Insecticide) + Azadirachin (1ml/L)	Abamectin - (Group 6 Insecticide) + Azadirachin (1ml/L)	Spinetoram - (Group 5 Insecticide) + Azadirachin (1ml/L)

NOTE: Test all insecticides and combinations on a crop sample before applying to the total crop(s) to avoid phytotoxicity.

Skills Training

GIA have developed training videos for growers to assist in educating staff on the appropriate methods of crop monitoring, site surveillance and import/despatch inspections available here:

https://nurseryproductionfms.com.au/videos/

Report and submit samples

All growers are encouraged to report any signs of leaf mining in vegetables to the **Exotic Plant Pest Hotline on 1800 084 881**. Instructions will be given on how to collect and submit samples for identification. Photos of damage and adult leafminers can be sent to biosecurity@dpi.nsw.gov.au Growers may also consider installing yellow sticky traps. Please contact NSW DPI on the above number or instructions on how to submit these for assessment. Your cooperation will assist in delimiting the spread of this unwanted new pest species.

For further information email: john.mcdonald@greenlifeindustry.com.au

Hort Innovation Strategic levy investment | NURSERY FUND

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