## **Update on activities undertaken by NSW DPI for Serpentine Leafminer *Liriomyza huidobrensis* (Blanchard)**

NSW Biosecurity & Food Safety

NSW Department of Primary Industries

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**Response Summary**

SLM was detected in Western Sydney in late October 2020. NSW DPI, in conjunction with Local Land Services (LLS), launched an emergency response to deal with the outbreak. Insects were detected on a total of 37 properties across 6 regions of NSW and farms in SE Qld were also affected. Detections in rural NSW were linked to the main outbreak in the Sydney Basin. Affected properties included vegetable farms, nurseries (both vegetable and ornamental), flower importers, home gardens and roadside verges. Thirty-eight plant species from 10 families were recorded as hosts with bean, lettuce, spinach, chilli and cucurbits particularly affected. The stippling damage caused by feeding and egg laying and the mines caused by the tunnelling larvae are distinctive signs of leafminer activity to be on the lookout for. SLM and the native leafminer species look very similar morphologically, thus diagnosis must be performed in a laboratory by a specialist entomologist.

SLM is still a notifiable pest in NSW so suspects should be reported via the Exotic Plant Pest Hotline on 1800 084 881 or via email to biosecurity@dpi.nsw.gov.au. To help producers navigate the challenges posed by SLM a dedicated SLM Concierge service has been established and can be reached by emailing leaf-miner.info@dpi.nsw.gov.au to discuss your individual business or industry circumstances. Samples can be submitted to the Orange Agricultural Institute for diagnosis if required, details on the NSW DPI website: <https://www.dpi.nsw.gov.au/biosecurity/plant/insect-pests-and-plant-diseases/exotic-leaf-miners>

Following extensive surveillance, assessments on where the pest was found and what commodities were affected it was deemed that SLM was not technically feasible to eradicate. This has seen a transition to management for the affected industries in NSW. To assist growers NSW DPI has compiled a number of factsheets that are now hosted on the NSW DPI leafminer website, including translations into Arabic, simplified Chinese and Khmer,link below:

https://www.dpi.nsw.gov.au/\_\_data/assets/pdf\_file/0003/1274574/Primefact-SLM-sample-submission.pdf

**NSW DPI past and current activities**

1. An extensive literature review on SLM has been completed (A.Nicholas, D.Nguyen, D.Gopurenko) to inform the response and decision on the feasibility of eradication or transition to management.
2. The NSW DPI Climate Unit is assisting with an assessment of where SLM is likely to spread within NSW. A specific model has been constructed and is in the process of evaluation by an expert group of scientists.
3. The NSW DPI Insecticide Resistance unit is exploring if the insects found in the NSW incursion may have resistance to registered chemicals. This is a complex process and a vital step to ensure best practice for management of SLM into the future. Insecticide resistance in leaf miners (*Liriomyza* spp.) has been poorly studied and historically limited to bioassay and/or biochemical tests only. A concept note on a novel R&D study on SLM insecticide resistance has been submitted to Hort Innovation for consideration.
4. In response to the Request for Proposal MT20005 (Management strategy for serpentine leafminer, *Liriomyza huidobrensis*) advertised by Hort Innovation, NSW DPI has applied as part of a consortium to provide in-field surveillance activities as well as proposing the development of high quality and user friendly molecular diagnostics.