

Lettuce Aphid Project

A one year lettuce aphid Integrated Pest Management (IPM) project is in progress at Tasmania. The project is headed by Mr Lionel Hill an entomologist with DPIWE Tasmania based at Devonport. Dr Paul Horne, manager of IPM Technologies from Hurstbridge Victoria and Dr Sandra McDougall, Technical Specialist vegetables with NSW DPI are both collaborating researchers in the project.

IPM technologies are assisting the development of lettuce aphid IPM through workshops at growers properties and DPIWE trial sites. IPM Technologies are also doing laboratory research seeking appropriate rates of Confidor[®], Actara[®] and Chess[®] that do not degrade the efficacy of brown lacewing and damsel bug in lettuce IPM.

Lettuce trials at Forthside research farm are currently comparing standard varieties to Nasonovia resistant varieties. The standard varieties are not drenched. There are some test beds of Chess[®] and Confidor[®] at high and low rates. The use of Pirimor[®] will be compared to the use of beneficial insects alone. Aphid control will predominately be left up to beneficial insects. The lettuce aphid project will do trials to gather appropriate residue data for the extension of the current Confidor[®] permit.

Update on the Lettuce Aphid IPM trials

The first planting finished positively. A mix of aphid species infested the lettuce quite early. These included lettuce aphid, potato aphid and brown sowthistle aphid. The aphid numbers increased quickly and the prospects of marketable lettuce appeared grim.

It took a few weeks for the beneficial insect population to build. Brown lacewings, hover flies and both 11-spotted and transverse ladybird beetles fed on the aphid colonies. Only a few aphids remained in the odd lettuce at harvest. The only spray used in the first trial was Dipel[®] for cutworm,. A small proportion of the site was sprayed with Pirimor[®] for comparison. To date three grower workshops have been undertaken with the IPM trial.

The harvest in early December indicated that varieties with no Nasonovia resistance could be managed to produce marketable lettuce without the use of seedling drenches. Grower's were unanimous that the lettuce were marketable, in fact 180 cartons were sold from the site. Similar trials will continue for the duration of the lettuce season in Tasmania.



Growers attending a workshop with IPM Technologies.

For more information contact Lionel Hill
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APVMA Suspends Procymidone Use in Lettuce

The APVMA announced recently that procymidone (sold as Sumisclex[®], Cyon[®], Spiral Aquaflo[®], Fortress[®], Rumble[®] and Procym[®]) is under review. All growers should note that **procymidone use** on green beans, table grapes, dried grapes, **lettuce**, stone fruit (except for blossom blight control pre shuck fall), strawberries and tomatoes is **suspended**.

Permit number PER5434 – procymidone in cucurbits, (cucumber, melon, pumpkin, squash, zucchini) for Sclerotinia rot has also been cancelled.

The action comes as a result of a recent toxicological assessment of procymidone. The APVMA introduced these new regulatory actions in the interests of public health and worker safety.

Further details can be found at the following web link
www.apvma.gov.au/chemrev/procymidone.shtml

Sclerotinia booklet

Authors Oscar Villalta, Ian Porter, Denise Wite (DPI, Victoria), Hoong Pung and Susan Cross (Serve-Ag Research) have published a booklet on the "Development of Biological Controls for Sclerotinia Diseases". The booklet is a publication from a project funded by AUSVEG and HAL.

Despite the widespread use of fungicide sprays Sclerotinia diseases are still a major cause of crop loss in lettuce. Intensive cropping, poor chemical application and the use of Sclerotinia susceptible crops in rotations are factors that contribute to this problem.



A lettuce crop infected with sclerotinia.

The suspension of procymidone creates a greater need for alternative sclerotinia control measures.

The control options in the booklet include:

- Non-chemical controls (e.g. biological control agents, biofumigant rotation crops);
- Cultural strategies (e.g. rotation crops)
- Chemical controls (e.g. a new application method to improve fungicide efficacy and promising new chemical treatments).

For a copy of the booklet contact your state vegetable Industry Development Officer

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Silverleaf whitefly

Silverleaf whitefly (SLW), *Bemisia tabaci* Biotype B, arrived unnoticed in Australia in 1994. Since then it has spread rapidly and is a pest in Queensland, northern New South Wales, the Northern Territory and parts of Western Australia. SLW is still spreading and each new outbreak is proving costly to growers.



Silverleaf whitefly adult.

SLW is a significant pest in lettuce around Gatton. These small white flies suck sap from plants causing leaf speckling or yellowing. Heavy infestations in the early stages of a lettuce crop result in poor growth.

Trials at Gatton have shown that only the adult flies tend to be found in lettuce. The whitefly's complete life cycle occurs in other crop plants like broccoli, cabbage, cauliflower, cotton, cucumber, eggplant, melon, pumpkin, soybean, squash, tomato and zucchini.

SLW has a very high capacity to develop chemical resistance. Chemical control is not a sustainable management option.

Biological control

After extensive testing, Australian authorities granted permission for release of an imported parasitic wasp, *Eretmocerus hayati*. The tiny wasp is yellow and less than 1mm long. The female wasp lays her eggs under SLW nymphs. When the wasp larva hatches, it bores into the nymph and develops along with the whitefly. Eventually the whitefly is killed and a wasp emerges through a hole it chews in the surface of the whitefly nymph.

The first year release was at Gatton on the 29th of October. Further releases were at Bowen, the Burdekin, Bundaberg and Emerald in Queensland. It is hoped that the wasp will greatly reduce Silverleaf whitefly populations. This will curb the reliance on insecticides for control of this pest.

For more information contact Paul De Barro
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