

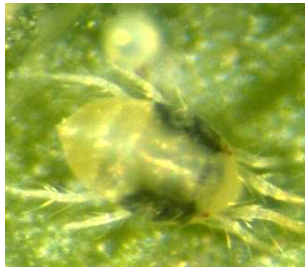
Resistance testing

2020-21 season

During the 2020/21 season, QDAF and the NSW DPI entomology teams undertook insect sampling for the purpose of resistance testing. This fact sheet provides a summary of the results.

Two-spotted mites

- Very low resistance detected to propargite (e.g. Comite®) and diafenthiuron (Pegasus®, Receptor®) – all regions.
- Low resistance to abamectin (e.g. Abachem®, Vantal®) in southern NSW.
- High resistance to abamectin (e.g. Abachem®, Vantal®) in northern NSW - lower Namoi and Gwydir.



Cotton aphid

- No resistance detected to sulfoxaflor (e.g. Transform®)
- No resistance detected to thiamethoxam (e.g. Actara®)
- Very low resistance to clothianidin (e.g. Shield®) and diafenthiuron (e.g. Pegasus®, Receptor®).
- Very low resistance detected to Group 1 insecticides (pirimicarb or dimethoate) in central and southern growing regions*.
- High resistance to Group 1 insecticides (dimethoate, pirimicarb) in north QLD (2020) and northern WA.



Mirids

- No resistance detected to fipronil (e.g. Regent®), sulfoxaflor (e.g. Transform®), clothianidin (e.g. Shield®) – all regions.



Helicoverpa#

- No resistance detected to emamectin benzoate (e.g. Affirm®).
- No resistance detected to Group 28 chlorantraniliprole (e.g. Altacor®)
- Overall indoxacarb (e.g. Steward®) resistance increased slightly from 5.7% in 2019-20 to 6.8% in 2020-21.



* Central and Southern regions: Balonne, Bourke, Darling Downs, Gwydir, Lachlan, Upper and Lower Namoi, MacIntyre, Macquarie, Murrumbidgee, Murray.

Grains resistance management strategies have also been developed for key pests such as helicoverpa. View them [online](#).



fact sheet

Reduce resistance risk

Comply with Industry Best Practice and consult the Insecticide Resistance Management Plan (IRMS) on all pest management decisions

Principles of Resistance Management

- Use product windows to limit exposure to any one MoA group
- Rotate insecticides with different MoA within and between windows
- Do not exceed the maximum number of recommended uses
- Use recommended thresholds (avoid prophylactic sprays)
- Do not respray a field failure with products from the same MoA group
- Use the most IPM compatible options where possible
- COMPLY WITH LABEL INSTRUCTIONS. THE LABEL IS THE LAW.

The [2021 IRMS](#) is published in the [Cotton Pest Management Guide](#).

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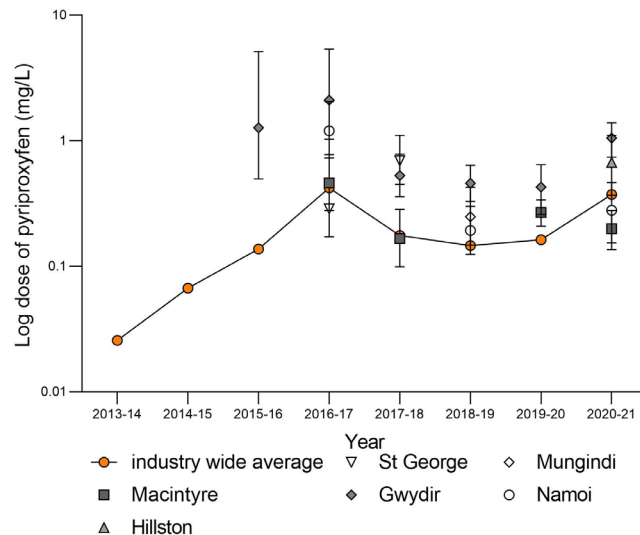
For more detailed information view the presentation online [here](#).

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Silverleaf whitefly

- Low to moderate resistance to pyriproxyfen (e.g. Admiral®) detected in Goondiwindi, Gwydir, Namoi and Hillston. Nine out of 16 sites tested have resistance.
- One population collected from Moree and another from Hillston had moderate levels of resistance to pyriproxyfen.

The widespread detections are a reminder that pyriproxyfen should be applied once per field per season within the application window for [your valley](#). If whitefly require further control, refer to the cotton pest management guide for other registered chemistry.



Response of resistant silverleaf whitefly populations to pyriproxyfen compared to the annual industry average.

- Acetamiprid (e.g. Skope® and other tradenames) and Dinotefuran (e.g. Starkle®) no resistance detected; avoid multiple applications of neonicotinoids.
- Emamectin (other chemistry in Skope®) no resistance detected.
- Buprofezin (e.g. Applaud®) is recently registered. No resistance detected and no evidence of cross resistance to pyriproxyfen or spirotetramat.
- Spirotetramat (Movento®): one site near Narrabri had low-level resistance. No resistance detected in other regions, including regions where resistance has been detected previously (Emerald). Spirotetramat is sensitive to developing resistance. IRMS guidelines recommend a single application per field for SLW control.
- Pyrethroid resistance is widespread but at a low frequency within most populations.



Department of Primary Industries

