

Insecticide resistance surveillance: Summary of results for 2022-23

Helicoverpa

Helicoverpa armigera showed no resistance to chlorantraniliprole or emamectin benzoate for 2022-23. Resistance to indoxacarb can vary significantly between regions and between seasons, but the average resistance by region in 2022-23 was:

- Central Queensland 5.9%
- Darling Downs 10.1%
- St George/Mungindi 11.9%
- Macquarie 4.5%
- Namoi/Gwydir 7.3%

Aphids

Populations of cotton aphids from NSW, and southern Qld were susceptible to sulfoxaflor and thiamethoxam with very low resistance to clothianidin. Low levels of reduced sensitivity to diafenthiuron were recorded in some regions. In contrast to previous seasons, moderate to high levels of resistance to Group 1 insecticides was present in aphids from most growing regions. Of the 69 populations tested only 13% were fully susceptible to pirimicarb, with the overall industry average of pirimicarb resistance at 27.5%.

Mites

Resistance testing in two-spotted mites (TSM) confirmed that abamectin resistance remains stable at moderate levels in northern NSW with significantly lower levels than in the south of the state. There was very low resistance to propargite in all regions. However, diafenthiuron resistance was detected in several TSM populations from the Namoi/Gwydir valleys. In some cases, resistance was recorded at approx. 10% above baseline, a significant increase from previous seasons.

Mirids

No resistance was detected in green mirids to fipronil, sulfoxaflor or clothianidin.

Silverleaf whitefly

In total 19 Bemisia tabaci populations were collected, including for the first time from the Lockyer Valley and Chinchilla. To date, pyriproxyfen, spirotetramat, and buprofezin have been tested, with further testing with acetamiprid, bifenthrin and other registered insecticides to be completed soon.

- A moderate level of pyriproxyfen resistance was detected in one population from Mungindi, and lower-level resistance was present in two populations from the lower Namoi valley.
- Spirotetramat resistance was detected at a moderate level in the population collected from the Lockyer valley, while very low-level resistance was detected in five other populations from Emerald, St George, Mungindi, and Namoi valley.
- No resistance has been detected in the 11 populations tested to date with buprofezin.



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