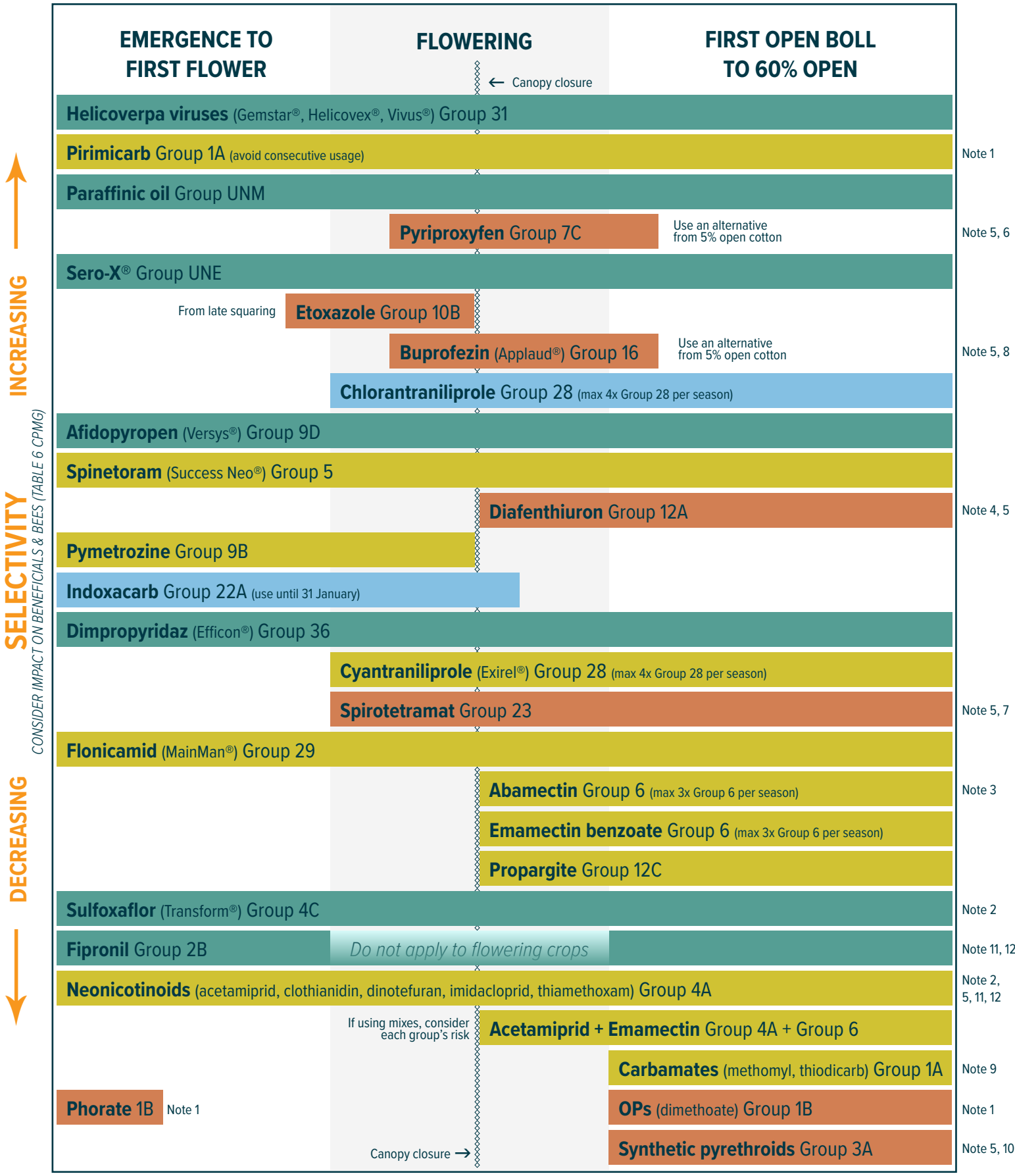


# Insecticide Resistance Management Strategy 2024/25

Best practice product windows and use restrictions to manage insecticide resistance in insect pests of Australian cotton



# How to use the IRMS

The IRMS aims to reduce the chance that highly mobile pests would be repeatedly exposed to the same insecticide/miticide mode of action group by limiting the timing of insecticide availability. The strategy focuses on different crop stages (before, during, and after flowering), with particular attention to canopy closure. From a broader management perspective, it's important that crops are sown at a similar time within a region. This helps prevent mobile pests, such as silver leaf whitefly, from moving between fields and repeatedly encountering the same chemical treatments where crops have very different growth stages within the same district. If late-sown crops require management, where practical choose products that align with the average crop development stage for your region.

Products are listed in order of decreasing selectivity. For all pest species, aim to use the most selective option, delaying or avoiding the use of broad-spectrum products.

**See CottonInfo's website for the latest resistance monitoring results.**



## Use restrictions

The colours of insecticide windows represent the maximum number of applications per crop per season for any given product or product group. Note: some products in the 'avoid repeated use' may have a maximum application number stated on the label.

No more than 1 application per season

No more than 2 applications per season

No more than 3 applications per season

Avoid repeated applications of same group

Additional restrictions are included to the right of the table; these link to the specific footnotes below.

## IRMS notes:

**Mirids:** No resistance issues identified, but insecticides targeting mirids also select for resistance in secondary pests (aphids, mites & SLW).

**Aphids:** High level of caution recommended. Rapid increase in resistance to pirimicarb/dimethoate and field failures are now likely.

1. Widespread early season dimethoate use has caused catastrophic pirimicarb resistance in aphids leading to field failures. Do not use pirimicarb and dimethoate in the same field. If phorate is applied at planting DO NOT use pirimicarb or dimethoate as an early season spray due to cross resistance.
2. Failures of neonicotinoids against aphids have been confirmed. DO NOT follow a neonicotinoid seed treatment with a foliar neonicotinoid when aphids are present. If there is an alternative do not follow a neonicotinoid with sulfoxaflor.

**Mites:** A high level of caution is recommended as mite control options are becoming limited. In northern NSW there is moderate to high resistance to abamectin and diafenthiuron. See IRMS for product window recommendations and note that there will be product rotation recommendations for northern NSW developed for 2024/25 following CGA pre-season consultation. Note that there are no miticides recommended for use prior to late squaring. Ensure cotton is sown into clean fields (be aware that planting into patches of herbicide-treated weeds can result in early season mite infestation due to displacement). If encountering severe mite infestation on newly emerged cotton please contact your local CottonInfo REO or IPM Technical Lead (Paul Grundy 0427 929172) to discuss options.

3. Addition of abamectin to mirid sprays has caused high level resistance in mites. Base miticide decisions on thresholds and do not apply prophylactically with mirid sprays.
4. Moderate to severe resistance to diafenthiuron has been identified in mites. DO NOT use more than 1 application per season irrespective of target pest (refer to label).

**Silverleaf whitefly:** Pyriproxyfen resistance stabilised but emerging resistance in other SLW products (e.g Spirotetramat). Continue adhering to IRMS recommendations for all SLW products. SLW has low resistance to pyrethroids in all regions.

5. Refer to 2024 SLW fact sheet [www.cottoninfo.com.au/publications/2024-silverleaf-whitefly-sampling-and-thresholds](http://www.cottoninfo.com.au/publications/2024-silverleaf-whitefly-sampling-and-thresholds) for additional guidance.
6. Resistance to pyriproxyfen is low but widespread. To avoid loss of product efficacy, ensure all on-farm use is within a 30 day window and DO NOT use more than 1 application of pyriproxyfen per season.
7. Spirotetramat resistance has increased and been detected in most regions. Note that resistance levels are EXTREME in Lockyer and Bowen regions. The dominant target site resistance mechanism means resistance can develop rapidly and reversal of resistance is unlikely. DO NOT use spirotetramat more than once per season unless targeting mealybugs.
8. Unless targeting mealybugs, buprofezin usage should not exceed one application per field.

**Helicoverpa armigera:** Resistance stabilised. Continued adherence to IRMS recommended.

9. Additional applications can be made if targeting *Helicoverpa* moths using Magnet®.
10. High SP resistance is present in *Helicoverpa armigera* populations. Expect field failures. Low resistance is present in SLW.

**Thrips:** Moderate levels of resistance have been detected to fipronil in cotton seedling thrips. Avoid usage on establishing crops. Continued adherence to IRMS recommended.

11. Imidacloprid (neonicotinoid) and fipronil resistance in cotton seedling thrips is likely. If resistance is suspected, phorate is an appropriate at-planting alternative. Consider alternatives to neonicotinoids and fipronil for first foliar spray.

### Statement on bees

12. Refer to label statement about bees.

ALWAYS FOLLOW LABEL DIRECTIONS.

CONSIDER IMPACT ON BENEFICIALS & BEES (Table 6 in the *Cotton Pest Management Guide 2024-25*).

IMPLEMENT AN IPM STRATEGY INCLUDING GOOD FARM HYGIENE AND CONTROL OF OVERWINTER HOSTS.

PUPAE BUST CONVENTIONAL COTTON CROPS AFTER HARVEST.