

Key insects and mite pests of Australian cotton

Tracey Leven, CRDC

Robert Mensah, Industry & Investment NSW

Richard Sequeria, Queensland Primary Industries and Fisheries

Lewis Wilson, CSIRO

Martin Dillon, formerly CSIRO

This section provides specific management information for each of the key insect and mite pests of Australian cotton. For each pest, information is provided under the sub-headings of

- Damage symptoms
- Sampling
- Thresholds
- Key beneficial insects
- Selecting an insecticide/miticide
- Survival strategies

Damage symptoms indicate that a pest could be influencing crop development and possibly yield potential. In some instances, damage symptoms will be observed without the pest. This may mean that the pest is there but cannot be observed or that the pest has caused the damage but since left the crop. In other instances, the pest will be observed but there will be no symptoms of damage to the crop. Knowledge of pest presence and crop damage should be used in combination to make pest management decisions.

Sampling is the process of collecting the day-to-day information on pest abundance and damage that is used to make pest management decisions.

Thresholds provide a rational basis for making decisions and are a means of keeping decisions consistent. Knowing the key beneficial predators and parasitoids for each pest is important for developing confidence in IPM approaches to pest management.

Selecting an insecticide (or miticide) can be a complex decision based on trade offs between preventing pest damage and conserving beneficials, or reducing one pest but risking the outbreak of another. All pests have survival strategies that allow them to live and breed in cotton farming systems.

Knowing the **survival strategies** that are employed by the pest can help with decision making at the farming systems-level (e.g. choice of rotation crops) and also can help to anticipate pest outbreaks.

Information in this section links to a number of tables in the Guide. Registration of a pesticide is not a recommendation for the use of a specific pesticide in a particular situation. Growers must satisfy themselves that the pesticide they choose is the best one for the crop and pest. Growers and users must also carefully study the container label before using any pesticide, so that specific instructions relating to the rate, timing, application and safety are noted. This publication is presented as a guide to assist growers in planning their IPM programs.

Growers must also ensure that their insecticide program fits in with the Insecticide Resistance Management Strategy for Helicoverpa, aphids, mites and whitefly (see pages 61-70). Insecticides can be the most costly part of cotton production. Ensure that industry thresholds (pages 34 to 35) are followed to prevent unnecessary spraying.

Important— avoid spray drift

Take every precaution to minimise the risk of causing or suffering spray drift damage by:

- Planning your crop layout to avoid sensitive areas, including homes, school bus stops, waterways, grazing land and non-target crops.
- Ensuring that all spray contractors have details of any sensitive areas near spray targets.
- Consulting with neighbours to minimise risks from spraying near property boundaries. Keep neighbours informed of your spraying intentions near property boundaries. Make it clear that you expect the same courtesy from them.
- Carefully following all label directions.
- Paying particular attention to wind speed and direction, air temperature and time of day before applying pesticides using buffer zones as a mechanism to reduce the impact of spray drift or overspray.
- Keeping records of chemical use and weather conditions at the time of spraying.

ABBREVIATIONS USED IN TABLES 1-15

AC = Aqueous concentrate	ME = Microencapsulated
CS = Capsule suspension	OL = Oil miscible liquid
EC = Emulsifiable concentrate	SC = Suspension concentrate
EC/ULV = Dual formulation	SL = Soluble liquid
G = Granule	ULV = Ultra low volume
L = Liquid	WDG = Water dispersible granule
LC = Liquid concentrate	WP = Wettable powder

INSECT PEST

MANAGEMENT AND REGISTERED CHEMICALS

Helicoverpa spp.	Page 6
Aphids	Page 11
Mirids	Page 16
Spider mites	Page 18
Whitefly	Page 23
Thrips	Page 27
Locusts	Page 28
Green vegetable bugs	Page 29
Pale cotton stainers	Page 30
Mealybug	Page 31
Other pests	Page 32