

## Aphids In Winter Cereals

There are two species of aphid you are most likely to encounter in winter cereals (oats, wheat and barley). They are the oat aphid (*Rhopalosiphum padi*) and the corn aphid (*R. maidis*).

The oat aphid is found around the base of the tillers, and the corn aphid in the whorl and under leaves higher on the plant.

Both aphid species are greenish to black with rusty red-purple areas on the rear end around the 'tail'.

### How much damage can aphids cause?

The key question about aphids is "will the population of aphids in my crop cause damage and yield loss to the crop?" Direct aphid damage, as a result of feeding, is difficult to detect. In moisture stressed crops you may see yellowing with high aphid populations. Otherwise, there are generally no early signs of how much impact the aphids are having on the crop. West Australian research showed yield losses of up to 10%, and reduction in seed size, with aphid infestations (this was without any impact of barley yellow dwarf virus). Overseas research (Canada, US) suggests that significant yield loss occurs when aphids are present from flowering through to milky grain. The data also suggests that yield loss does not occur when infestations are present earlier or later than this period.

### Control thresholds

The recommendation is to check crops regularly from late tillering, and consider control if the aphid population exceeds 15 aphids/tiller on 50% of tillers.

### Other considerations when making a decision about cereal aphids

- Natural enemies (lady beetles, hoverflies, parasitic wasps) can have a big impact on aphid populations, reducing them to very low levels in many instances. Photo showing parasitised aphid 'mummy' (left), and unaffected aphid (right).

- Dimethoate and synthetic pyrethroids (registered for cereal aphid control) are highly disruptive to natural enemies. The application of these insecticides early (e.g. during the vegetative and early tillering stages) may result in a later reinfestation of the crop because small numbers of surviving aphids are no longer controlled by natural enemies. The impact of these products on natural enemies can persist for some days.
- Pirimicarb (Pirimor®) is a soft option for cereal aphid control, compare its price with that of dimethoate when making a decision – it may be competitive. Pirimicarb has some systemic activity.
- Oat aphids, at the base of the plant, can be difficult to contact in a dense crop. Dimethoate will kill aphids by contact, but its systemic activity is by translocation upwards, so its efficacy against oat aphid is unclear.
- The systemic activity of both pirimicarb and dimethoate may be reduced in moisture stressed crops.
- Rain will reduce aphid populations by knocking/washing individuals of plants, and the aphids tend not to get back on the plants. Often ground predators, like carabid beetles, ants etc will eat aphids on the ground. Check populations of aphids again if you get more than 20 mm rain.



Source: The Beat Sheet September 2007, A Queensland DPI Publication.

# Crop Update - Insect and Disease Pressure

## Faba Beans:

There are many instances where spraying is taking place for control of heliothis to minimise damage to pods/seeds that are now starting to fill. Thresholds for heliothis are around 2-4/m<sup>2</sup>, however the damage that can be caused by grubs can become considerable if complacency is practiced. The options for control are most effective when grubs are small, the smaller the grub, the less insecticide is required to be consumed to be a lethal dose. If spraying is required, good coverage is necessary to obtain the best results. Excellent coverage can be achieved through using twinjet nozzles and high water rates (100L/ha).

## Chickpeas:

This is the time of year where heliothis can start to invade and cause dramatic yield losses if not controlled. Thresholds are around 1-2 small grubs/m<sup>2</sup>, with larger grubs again being harder to control and causing more damage. A favoured control option is using Steward, which has the added benefit of residual action to help control further hatchings.

## Wheat:

This season has seen aphids requiring control in some areas due to numbers being high, and stripe rust also being a little more predominant than last season. The key to targeting stripe rust is to keep in mind that just over 40% of the yield potential is tied up in the flag leaf and a further 20-25% in the Flag -1. Therefore it is critical that these areas of the plant are protected and should be monitored regularly to ascertain a need for rust control especially in the more susceptible varieties such as Lang. There are a few options available for control depending on the stage of the crop and the amount of residual action that may be required.

The last few seasons have also shown that heliothis and armyworms can also pose a threat to wheat and therefore their numbers should also be monitored to keep things in check.

## Barley:

This season Powdery Mildew and Aphids have again posed problems and should continue to be monitored. We are also now heading into the time where armyworms can cause large yield losses through defoliation and also through chewing through the stem just below the head, causing heads to drop to the ground. Thresholds for armyworms are 2-3 grubs/m<sup>2</sup> at which point control should be undertaken.

## Canola:

Aphids are currently a threat to canola, and can be seen usually in clusters near the top of the plant, sucking moisture from the filling pods and causing tip death and distortion. Generally speaking, if 50% of heads have a colony around 25mm long, control is warranted to minimise loss. In addition to this, heliothis numbers are also starting to increase at this time and should be monitored to reduce potential for yield loss. Thresholds for heliothis larvae in canola are generally around 5 grubs/m<sup>2</sup>, or if visible pod damage is noticed.

For any of the above instances, if you need more information, or ideas on control options, please talk to your local PHR Agronomist.

## September Weather Summary

visit [http://www.pursehouserural.com.au/services/weather\\_station.html](http://www.pursehouserural.com.au/services/weather_station.html)

Location	Average Temp (°C)	High Temp (°C)	Low Temp (°C)	Number of Days < 0°C	Rain mm	Average Wind Speed Km/h	High Wind Speed Km/h	Dominant Wind Direction
Cattle Lane, Willow Tree	12.4	28.3	-1.7	4	2.4	9.2	57.9	S
"Murlow", Quirindi	11.8	28.0	-2.0	9	2.0	7.5	57.9	SSE
Mullaley	14.1	30.1	1.6	0	4.4	12.3	70.8	SSE
"Dow Site", Breeza	13.4	29.1	-1.2	2	0.4	7.7	61.2	SSE