



Issue No. 8 September 15th 2010

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Australian plague locust monitoring

Growers in identified plague locust risk zones in South Australia and Victoria should now start monitoring for nymphs of Australian plague locusts (*Chortoicetes terminifera*) which are expected to begin hatching over the next few weeks. Some isolated early hatchings have already been confirmed at locations near Loxton, however widespread hatching activity is not expected to occur until mid-late September or early October in the South Australian Mallee and districts south of Hawker in the Flinders Ranges.

Predicted hatching dates for South Australian locations are available on the [Australian Plague Locust Commission website](#). In most cases, estimates have been revised back 7-14 days due to prolonged cool conditions and significant rainfall keeping soil temperatures low. Estimates are only a guide for peak hatching activity. Actual hatching time will vary with local conditions and is expected to occur over a period of a few weeks. Start monitoring higher risk areas first, including areas where egg-laying was observed in autumn or where adults were present for a period of time. Also check bare ground areas and undisturbed pasture paddocks, and along tree lines where adult swarms could have banked up before settling down to lay eggs.

Locust control in South Australia this spring is based on a coordinated approach between landowners, local councils, NRM boards and PIRSA. The control strategy at all levels aims to target dense bands of 2nd and 3rd instar

wingless nymphs (6-10mm long) which are the life stage most easily controlled. A community approach involving cooperation with neighbours, local government and PIRSA staff is strongly encouraged. Landowners are primarily responsible for locust control on their own properties, however **sightings of nymphal hopper bands on council land or over large areas on private land (i.e. more than 75 hectares) can be reported to local control centres at Orroroo on 08 8658 1456 or Loxton on 1800 833 451.**

For more locust information including a list of insecticides registered or with an APVMA permit for locust control, refer to the new [GRDC Plague Locust Control Factsheet](#) (pdf). Also check the [Biosecurity SA Locust Response website](#) for the latest locust information for South Australia and to subscribe to the weekly locust newsletter or SMS updates for your region.

Aphid monitoring and control

Reports of cereal aphid populations have been increasing in some districts, however aphid populations on pulse and canola crops are still low with cool conditions and significant rainfall slowing rates of aphid development.

Regular monitoring for crop aphids should now have commenced, as the onset of warm spring conditions will favour rapid population growth. Monitoring should include checking representative parts of the paddocks and also any patches of wilted or stunted growth. A recommended method is to start at the crop edge and proceed into the crop in a random 'W' pattern. Inspect at least five points in the paddock and look for aphids on a minimum of 20 plants at each point.

Cereal crops can often withstand feeding damage from relatively high numbers of aphids without a reduction in yield unless plants are under stress. Consider control of cereal aphids if numbers exceed 15 aphids per tiller on 50% of plants for crops expected to yield at least 3 tonnes per hectare. For pulse crops, control should be considered where at least 20% of plants are infested. For lupins, consider control where 30% of growing tips are infested with aphids during the flowering to late podding stage. Action thresholds are a guideline only and vary considerably with factors such as crop development stage, crop health (stressed crops are more susceptible to aphid feeding damage), weather conditions, numbers of beneficial insects, expected yield, grain prices and control costs including chemical and application.

If treatment is necessary, consider the use of the aphid-specific insecticide pirimicarb which provides good control of aphids without harming important aphid natural enemies. Synthetic pyrethroids are relatively ineffective for direct knockdown of aphids (anti-feed only) and are highly toxic to beneficial insects. Consider border spraying or spot treating aphid 'hotspots' where appropriate to allow beneficial insects to continue building up within the crop.

Beneficial insects such as [parasitic wasps](#), [ladybird beetles](#), [hoverflies](#), [lacewings](#) and [damselfly bugs](#) are prevalent in spring and numbers should be considered before deciding on control. They provide a reliable form of biological control for moderate aphid numbers and often keep them below economically damaging levels. Look out for parasitised [aphid 'mummies'](#) which indicate parasitic wasp activity. Female wasps lay their eggs into the bodies of live aphids. These hatch into larva which feed and develop inside the aphid, eventually killing it. It is important to be aware of the 'lag' time

between pest population growth and the build-up of beneficial insects. If monitoring detects beneficial insect activity, it is often worth holding off spraying initially to see if pest populations are eventually suppressed enough to avoid a treatment. For more information, refer to [Aphids in lupin crops - DAFWA \(pdf\)](#), [Aphids in field crops - Qld DPI](#) and the new GRDC factsheet [Aphids and viruses in pulse crops \(pdf\)](#).

Cereal aphids

Agronomist Sarah Keogh has reported cereal aphids building up in several cereal crops between Wellington, Milang and McLaren Vale in the Adelaide Hills. One wheat paddock at Mulgundawa had approximately 50% of plants infested with around 20-30 aphids per plant. A sample of aphids submitted to diagnostics was found to have around 30% parasitism, therefore aphid-specific pirimicarb was being considered as an early treatment option. Cereal aphids have also been reported by consultant Bill Long at Bowmans in the Mid North, and by agronomist Ashley Pilkington building up in cereal crops in South East districts between Naracoorte and Keith.

The two major cereal aphid pests in southern Australia are [oat/wheat aphid](#) (*Rhopalosiphum padi*) and [corn aphid](#) (*R. maidis*). Both species attack all cereal crops and heavy infestations can result in yield losses. They are also important vectors of barley yellow dwarf virus. Oat/wheat aphids are olive-green to black in colour, pear shaped and have a characteristic rusty red patch at the end of the abdomen (body) between the siphuncles ('exhaust pipes'). Corn aphids are light green to dark olive-green with distinct purple areas at the base of each siphuncle. For more information, refer to the [new GRDC Cereal aphids Factsheet \(pdf\)](#) or [Cereal aphids - DAFWA \(pdf\)](#).

South Australia's Grains Biosecurity Officer, Judy Bellati, reminds growers and advisors to be alert for the exotic grains pest Russian wheat aphid (*Diuraphis noxia*) which is present in all major grain growing countries except for Australia. If this pest enters Australia, potential damage could be significant with estimates of up to 60-75% yield losses. Russian wheat aphid is similar in size and appearance to other common cereal aphids, but can be distinguished by the characteristic light green elongated body shape, lack of visible siphuncles ('exhaust pipes') and a dual cauda (tail) structure at the rear of the aphid. Like all cereal aphids, Russian wheat aphid spends its entire life cycle on grains and grasses with the preferred host crops being wheat, barley, triticale, oats and rye. Volunteer grasses around crop edges and road verges also provide a food source. Symptoms of feeding damage include rolled up plant leaves with white, purple or yellowish streaks; awns can be trapped by the rolled flag leaf, and heads can be bleached in appearance. For more information and images refer to [Russian wheat aphid - DAFWA \(pdf\)](#).

Remember, if you detect an unusual cereal aphid send it in for diagnosis or call the Exotic Plant Pest Hotline on 1800 084 881.

Canola aphids

Canola aphid activity appears to be very low with no reports received as yet. The two major canola aphid pests in southern Australia are [cabbage aphid](#) (*Brevicoryne brassicae*) and [turnip aphid](#) (*Lipaphis erysimi*). Both species form dense colonies on the flowering tips with numbers initially building-up along crop edges. Cabbage aphid colonies appear greyish-green to bluish-

green/grey with a covering of thick whitish powder. Turnip aphid colonies have a fine waxy appearance. This species is often more abundant in drier seasons. For more information on canola aphids, refer to [Aphid management in canola crops - DAFWA](#) (pdf).

Pulse aphids

Low numbers of [cowpea aphids](#) (*Aphis craccivora*) have been sighted by agronomists Troy Johnson and Mark Barry in Faba bean crops south of Minlaton on Yorke Peninsula. Cowpea aphids are greyish-black in colour and all stages have white and black coloured legs. They favour legume hosts and are commonly found on faba beans, lentils, medics, lupins and vetch. Infestations start on the growing tips and they often form dense colonies on a single plant before moving onto surrounding plants. Initial symptoms of damage include yellowing or whitening of leaf veins. Heavy colonisation can cause rapid wilting of leaves and plant death. For more information refer to [Aphids in lupin crops - DAFWA](#).

[Bluegreen aphids](#) (*Acyrtosiphon kondoi*) have been confirmed for Chris Pearce from a medic pasture near Rudall on Eyre Peninsula. Aphids were distributed throughout the paddock with high numbers found towards the centre. Chris says populations are widespread across the district with around 200 hectares of medic pasture affected, despite continuing cold and wet weather including over 50mm of rainfall since the 1st of September. Blue-green aphids are relatively large (up to 3 mm long), matt blue-green in colour, and have two long siphuncles ('exhaust pipes') that extend beyond the end of the body. Blue-green aphid prefers legume hosts and is a common pest of lupins, lucerne, annual medic and subterranean clover pastures. For more information on bluegreen aphid, refer to [Bluegreen aphid - DAFWA](#).

Diamondback moth

Populations of [diamondback moth](#) (*Plutella xylostella*) (DBM) have declined in canola crops on Lower Eyre Peninsula following periods of significant rainfall. Agronomist Nigel Myers reports that only 1-5 larvae per 10 sweeps are now being found in canola crops around the Cummins area, down significantly from 50 larvae per 10 sweeps that were found back in July around Karkoo. The rainfall has apparently caused high mortality of larvae due to dislodgement and drowning, however growers should remain vigilant as populations can increase rapidly under warm and drier spring conditions.

An emergency permit ([PER12297](#)) has been issued for the use of Affirm[®] Insecticide (17g/L Emamectin) for control of diamondback moth in canola crops on Lower Eyre Peninsula, which is valid until 31st October 2010. **Carefully note the 7-week withholding period between application and harvest or grazing, and remember that harvest includes wind rowing.** Accurate written records must be made of the details of each spray and these records must be kept for a minimum of two years. It is essential to read, understand and carefully adhere to permit directions, as detection of unacceptable crop residues will jeopardise access to critical export markets for the grains industry. With the short spray window remaining due to withholding periods and current low DBM numbers, it is unlikely many crops will need to be sprayed with Affirm[®]. For more information on diamondback moth, refer to [PestFacts Issue 6, 2010](#) (pdf).

Polyphrades weevil

The native weevil *Polyphrades laetus* has been identified for agronomist Dustin Berryman who found them damaging a 50-hectare tillering wheat crop at Willowie in the Mid North. The crop was treated to prevent further damage from adult weevils and also armyworms that were present. Dustin had also noticed these weevils at the same site last year. These adult weevils will now be nearing the end of their lifecycle following an active period of feeding, mating and laying eggs in the soil from May to August.

Polyphrades laetus occurs almost exclusively on the West Coast of Eyre Peninsula, with this the first record in another part of the state. Adult weevils mainly attack cereals with young wheat and barley plants (up to four-leaf stage) most vulnerable to attack, particularly those on lighter, grey calcareous soils. Vetch and canola can also be affected, and broadleaf weeds and medics may be chewed but not badly damaged. Healthy crops are often able to outgrow moderate weevil damage, however severe damage can occur when high adult numbers (>300 per m²) are present. Adults are small weevils (approx. 4mm long), dull brownish cream in colour and take refuge under and in stubble. For further information on *Polyphrades* weevils, refer to the Southern Ute Guide (pg. 53).

Armyworms still active

Some isolated reports of armyworm activity are still being received from the Mid North region. Agronomist Dustin Berryman found mid to late instar larvae (over 25mm long) lopping plants in a barley crop at Booleroo Centre, leaving large bare patches. The grower was considering a treatment however larvae are approaching maturity and significant further crop damage is considered unlikely. Agronomist Grant Roberts had earlier reported damage to 20-30 hectares of barley crops around the Burra region which were likely to require treatment.

The majority of armyworm larvae from the earlier winter generation should now be close to maturity (around 40mm long) and will soon stop feeding to pupate in the soil. If armyworm damage is found, monitor the development stage of the insect population and consider the likelihood of further damage before deciding whether a treatment is necessary. For more information, refer to [PestFacts Issue 7, 2010](#) (pdf).

Insect diagnostics and online reporting

SARDI Entomology Unit offers a **FREE insect diagnostic service for PestFacts subscribers**. For identification, please send at least 2 undamaged specimens in a non-crushable container along with some food (host material). Also please provide collection date, district, host-plant, description of damage caused and contact details.

Specimens can be forwarded to:
Kym Perry or Gabriella Caon
Entomology Unit SARDI
GPO Box 397, Adelaide 5001

PestFacts relies on valuable field observations of pest occurrences. Your contributions make your newsletter more informative and helpful for the

management of invertebrate pests. Please provide your observations of pest occurrences using the [online NIPI observational reporting form](#), or contact a coordinator directly.

Crop diseases diagnostics

SARDI Field Crop Pathology Unit offers a range of diagnostic services: refer to [SARDI Crop pathology diagnostic services](#). Crop watch is an electronic newsletter service provided by SARDI. If you would like to receive Crop Watch please send your email address to Jon Lamb, Jon Lamb Communications jlcom@chariot.net.au titled "Crop Watch request"

PestFacts is a FREE service providing updates throughout the growing season on an "as-needed" basis of the latest information on invertebrate pests in broad acre crops in South Australia and western Victoria. It is supported by GRDC's National Invertebrate Pest Initiative (NIPI). All information is sent by email to subscribers. Please email a coordinator to be placed on the circulation list. Your support and feedback are essential to the success of PestFacts.

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