Don't play host to cotton aphids this winter
By Austin McLennan, Queensland Department of Primary Industries

Aphids, once considered only a secondary pest in cotton, are now emerging as a major problem in some growing regions. But growers should not wait until they have cotton in the ground to start thinking about aphid control. The time to start getting on top of next season’s aphid problem is now — before you have one.

Hit their winter hideouts
Pest aphids in Australian cotton regions don’t have a special overwintering form like the heliothis (Helicoverpa armigera) pupa. So where do cotton aphids go during the winter when the weather gets cooler and there are no cotton crops?

Answer: They hang-on through winter in low numbers on whatever suitable host plants are available.

This means that the best way for growers to get a head start on cotton aphids this winter is by reducing the availability of on-farm host plants.

Regrowth cotton and volunteers
Not only are cotton regrowth and volunteer cotton both potential overwintering hosts, but cotton regrowth in particular poses a high risk as a reservoir for cotton bunchy top (CBT) virus (also known as BBT or bonsai bunchy top).

Cotton regrowth can be difficult to control, but for growers concerned about aphids and BBT, it is important to make the effort.

Weeds on the hit-list
Some common weeds are also host to the pest aphids and these should be managed during the winter to restrict carryover of aphids from last season. The main weeds suspected as winter weed hosts of the cotton aphid are bladder ketmia, Paddy’s lucerne, marshmallow, calthrop (catheads), cobbler’s pegs, wild gooseberry and ground cherries. Marshmallow is also suspected as a host for the BBT virus. Other non-weed hosts include some ornamental plants such as hibiscus, chrysanthemums and orange jasmine.

But not all weeds that carry aphids during winter are a problem for cotton farmers. Sow thistle is commonly seen infested with aphids, but neither of the two aphid species feeding on sow thistle move onto crops.

Researchers are developing a list of all the
plants currently known to support the three aphid pest species in cotton. If you have any questions about a weed on your property that you suspect may be a problem, get in contact with one of the people listed in the footnote after this article.

Is this weed hiding aphids?
Even if you find some weeds on your farm infested with aphids, and you’re not certain if the aphids are one of the three pest species for cotton (see box story), remember that weed control — either with or without aphids — is the safest approach. Aphid numbers can be very low — perhaps at levels not even detectable — over winter, but those that make it through on available weed hosts can rapidly build up once spring arrives. Females have live young which means rapid population growth, and winged aphids spread quickly to crops near and far.

Breaking resistance
Cotton aphid resistance to organophosphates (OPs) such as dimethoate /omethoate, pirimicarb and profenofos has now been recorded in most regions, with hotspots in the Namoi Valley and at Emerald. Managing aphid host plants over the winter doesn’t just reduce the number of aphids on your farm at the beginning of the season, it will also reduce the risk of any resistant aphids on your farm surviving to pass on their genes to the next generation.

Planning ahead
Winter provides an excellent opportunity for getting the jump on aphids by controlling their winter hosts. But we all know by now that silver bullets don’t exist. Other key tactics that can contribute to a successful IPM strategy and resistance management for aphids and BBT in cotton include:

- Variety selection (for BBT resistance);
- Seed dressings or ‘at-planting’ insecticides;
- Sampling and use of thresholds;
- Predators and parasitoids; and,
- Rotation of insecticides.

But by controlling any cotton regrowth, volunteers or aphid weed hosts you’ve already given yourself a head start for next season.

For more information contact: Lewis Wilson, CSIRO, ACRI Narrabri. Ph: 02 6799 1550; fax: 6793 1186; email: lewisw@mv.pi.csiro.au, Bernie Franzmann, DPI, Toowoomba. Ph: 07 4688 1313; email: Bernie.Franzman@dpi.qld.gov.au or Austin McLennan, DPI, Pittsworth Qld. Ph: 07 4693 2486; email: Austin.McLennan@dpi.qld.gov.au
Two information updates providing more detail on aphids in cotton were recently mailed out to all registered ENTOpak users. If you would like a copy, contact Dave Larsen at the cotton CRC on ph: 02 6799 1534 or go to http://www.cotton.pi.csiro.au/Assets/PDFFiles/AphidEco.pdf and http://www.cotton.pi.csiro.au/Assets/PDFFiles/AphMang.pdf