

Management of thrips

Friend and foe?

Early season thrips present a challenge to pest management decision makers. While nymphs and adults cause early season damage to terminals, leaves, buds and stems, they are beneficial as a key predator of spider-mite eggs, especially later in the season and have proven to delay the development of mite outbreaks in cotton.

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Thrips in cotton

There are several species of thrips found in cotton including *Thrips tabaci* (Tobacco thrips), *Frankliniella schultzei* (Tomato thrips), and *F. occidentalis* (Western flower thrips).

very stunted, with node 7 onwards less effected. Within a few weeks these plants look no different to plants that have been protected.

During late winter and spring, thrips build up on a range of flowering plants, including cereal crops and winter weeds such as Mexican poppy, turnip weed and Paterson's curse. As these hosts dry out, adults, aided by wind currents, fly on to more attractive host. Following a dry finish to spring, cotton stands out as one of the few green, attractive hosts available for these thrips to move on to. This is in stark contrast to other season, where the extended wet spring keeps many of these hosts green and growing, and while thrip numbers were probably higher, the push to migrate was not there.



In some instances, populations of thrips will remain very high and plant growth delayed by cool, wet weather, may result in seed treatment or at planting insecticides no longer providing sufficient cover, and damage occurs beyond the 80% reduction in leaf area threshold. At this threshold level, it is important to determine if thrips are still present at high numbers, or if the natural decline has commenced, and control is not warranted.

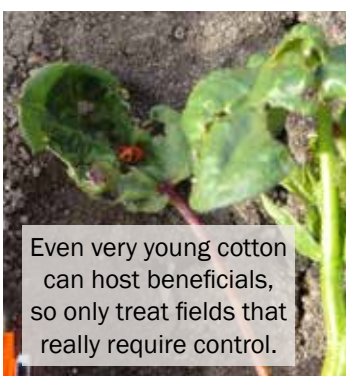
Do I need to control?

Thrip feeding deforms leaves and can damage the terminal. This damage can delay crop development and even result in yield loss if severe. It is also important to remember that in this early stage of growth the cotton plant has an amazing ability to compensate.

The decision as to whether to control is made more difficult by the likely impacts on beneficials. Control options available are all disruptive to beneficials and it is also important to remember that thrips themselves are important predators of mite eggs. Beneficials will not necessarily easily re-establish in the crop. Sources of these beneficials would be native vegetation areas, cotton crops that are

Thrip populations will usually decline naturally in early

December, and the warmer temperatures allow the plant to start to grow away from the thrip damage. The plant responds by earlier completion of the thrip-affected main stem leaves, which allows resources to be available for the earlier unfolding of upper, undamaged leaves. Often the first true leaves at nodes 1-6 are



not sprayed for thrips, and other crops. The opportunity for beneficial to re-establish from stock routes and pasture areas is much lower in dry springs as the there are lack of attractive hosts, harbours few prey for beneficials to persist on.





Do I need to control?



Plant with undamaged new leaves. On way to recovery

Crops that are past 6 true leaves and have new leaves with little damage should recover well.

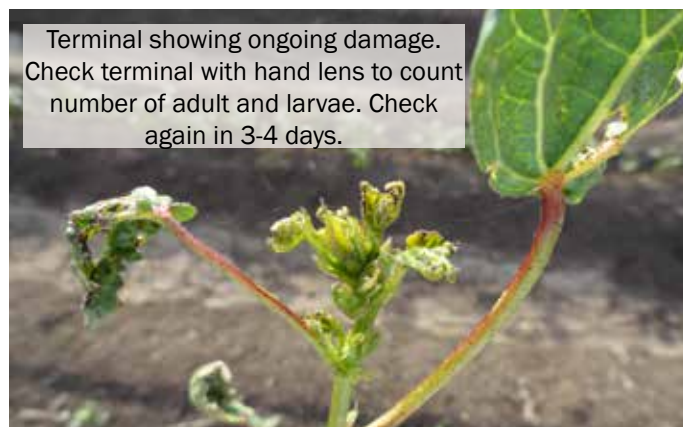


Terminal showing new growth without damage. Continue to monitor

Crops that have had damage to lower nodes (1-6) but are just starting to push out new leaves that appear to have little damage will probably recover well, but check to confirm in a few days time.



Severely damaged plant starting to recover but delayed maturity is likely.



Terminal showing ongoing damage. Check terminal with hand lens to count number of adult and larvae. Check again in 3-4 days.

Where crops have a lot of damage to lower nodes (eg leaves < 1cm long) and the youngest leaf is still stunted, use a hand lens to look in the terminal and count the number of adult and larvae thrips. If there are none present then spraying is not required.

If thrips are observed, return in 3-4 days to look for evidence of new leaves with no damage. Thrips are usually on the decline at this time, and plants starting to grow faster, so there is still a high likelihood that plants should continue to recover. If the plant gets to 6 nodes and the damage on the youngest emerging leaf is still intense then control is probably warranted. Only treat fields that really need it, leave others as a source of beneficial to recolonise the sprayed crops.

Selecting an Insecticide

There are no soft options for control of thrips in crop, and a decision to spray will likely disrupt beneficials and risk flaring mites. At this stage, most crops have *Thrips tabaci*, which are fairly sensitive to the registered control options available. However, western flower thrips may also be present. If a spray against thrips does not perform well, then it is likely western flower thrips are also present. Nevertheless, if thrips abundance is reduced the crop should recover without further intervention.

- Fipronil is the only registered product that is available at this stage in the IRMS, (*Thrips tabaci* only).
- OP's (dimethoate, omethoate & phorate) are not available until later in the IRMS. **All early season uses of dimethoate / omethoate need to be avoided to minimise the inadvertent selection of pirimicarb resistance in aphids.**

Refer to Cotton Pest Management Guide for more information.

