

Pest Fact Sheet:

Woolly aphid (*Eriosoma lanigerum*)

Identification

The woolly aphid (*Eriosoma lanigerum*) is a serious pest of apple production in all Australian fruit growing regions. It can affect all parts of the tree, resulting in direct damage to fruit and limbs and a gradual decline in tree health.

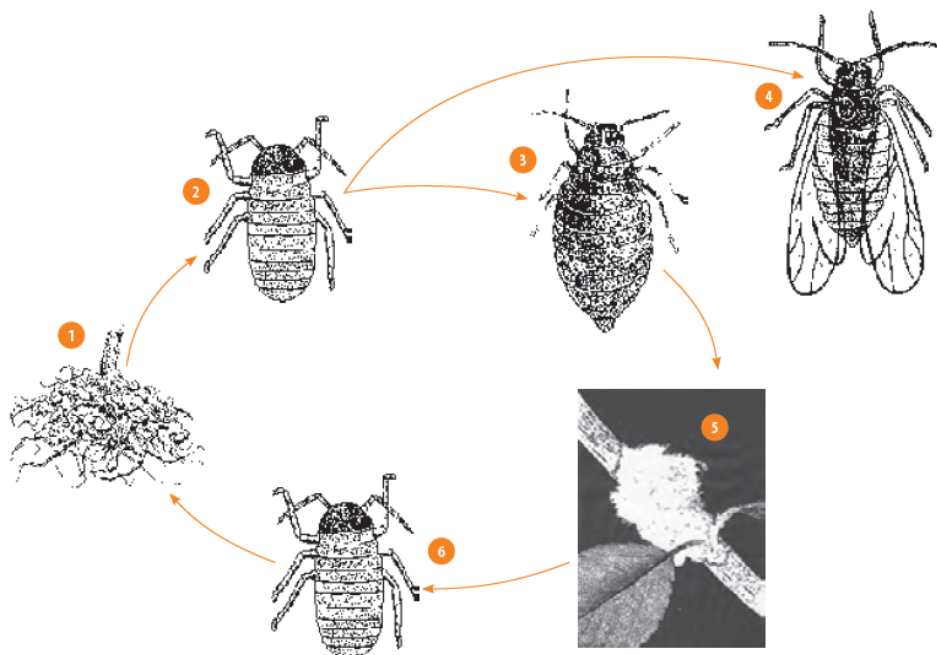
Woolly aphid survives through winter as an early-stage nymph called a crawler. These crawlers find sheltered positions in cracks and crevices in the bark; most disperse to the base of the tree and infest the roots. Crawlers are oblong, flattened, and a mealy grey to brown. There are two types of adult. The most common form has no wings and is about 2 mm long. The winged adults are a dull blue-grey to black and slightly larger than the wingless form.



Life cycle

As temperatures increase as spring approaches, crawlers become active and begin to disperse. Crawlers grow and moult four times before becoming adults. Later nymphal stages grow larger with each moult and produce the characteristic white wool. Adults do not lay eggs, but produce an average of 120 live young (all female). Woolly aphid can have 10 to 20 generations per season. Toward the end of summer – particularly in warm regions winged adult female aphids appear. They are commonly found sitting on top of colonies of wingless individuals.

Woolly clusters or colonies occur because, although dispersive, crawlers often settle close to their parent. Fluffy colonies are typically found in old pruning wounds and scars on major branches and on the trunk and water sprouts. Colonies begin at nodes and spread up and down the shoot. Woolly aphids are spread through the orchard by wind and by planting infested nursery stock.



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Damage

The most obvious sign of woolly aphid infestation is the presence of white woolly colonies. During summer, colonies form on actively growing terminals and water sprouts. These aphids produce copious quantities of sticky honeydew, which is released, falls on the fruit and shoots beneath, and fosters the development of sooty mould, resulting in fruit downgrading. In addition, brushing and crushing aphids during summer thinning, pruning or harvesting releases their body fluids, leaving purple stains on skin and clothing. Winter colonies do not produce the white wool commonly seen in summer. As winter approaches and colonies decline and lose their wool, galls become apparent. Galls occur when aphid feeding induces cell division and proliferation, resulting in the appearance of woody outgrowths. Galls in axils disrupt the production of fruit and vegetative buds. This may seriously disfigure young trees and nursery stock. Overseas, woolly aphid has been implicated in the transmission of diseases such as perennial canker.

Feeding by woolly aphid also causes galls to form on the roots. Root galls can be very large, and continued feeding can kill roots, stunt tree growth and kill young trees.



Monitoring

In Australia, aerial colonies are often kept under control as a result of insecticides application for other pests such as codling moth. Root colonies are more likely to cause serious damage because they escape these insecticides. It's therefore necessary to monitor the orchard to determine which trees should be treated with a soil drench

During late summer or autumn, apple trees with woolly aphid colonies or damage should be identified and marked for treatment early the following season. The presence of established aerial colonies is a good indication that root colonies are also present. Pay particular attention to old pruning wounds and damaged bark.

Management

In Australia the key to good management of woolly aphid has proven to be control of the root-infesting phase of its life cycle. Applications of insecticides specifically to control aerial colonies of this pest are often unnecessary following effective application of a soil drench.

A number of predators provide some control of woolly aphid; they include ladybird beetles (e.g. *Harmonia conformis*) and the parasitoid wasp *Aphelinus mali* which was introduced from New Zealand. The wasp is particularly effective in warmer areas and seasons. In cooler areas such as the NSW Tablelands, Tasmania and parts of Victoria, parasitoid activity may lag behind that of its host and infestations may require chemical control.

All information is sourced from APAL Integrated Pest Management for Australian Apples & Pears 02/10 – 7252.