Cotton Catchment Communities CRC

COTTON *TALES*

Namoi Valley

Ian Taylor, IPM Target Lead – 0427921480

2011/12
No.1
15/2/12

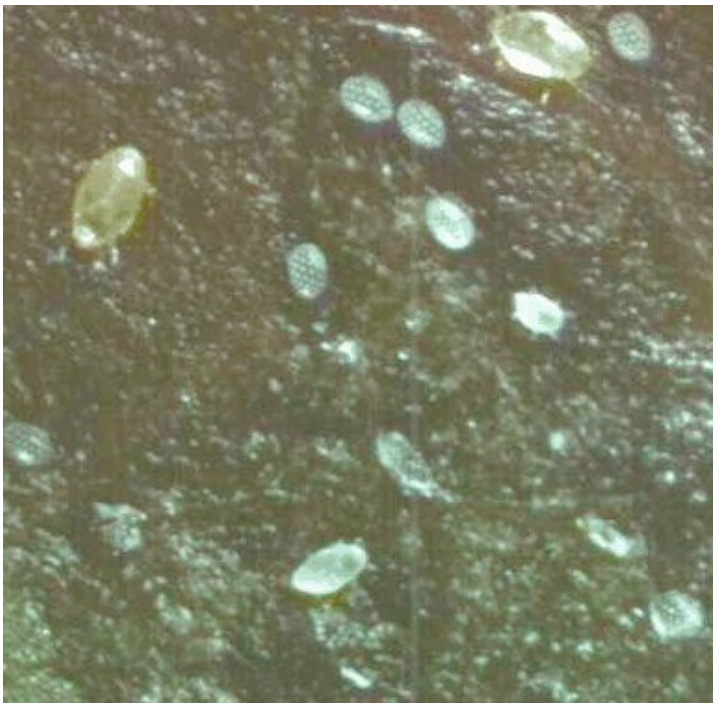
Broad mites

In recent weeks some consultants have reported finding broad mites or yellow tea mites (*Polyphagotarsonemus latus*) in cotton crops in the Gwydir and Macintyre valleys. Typically broad mites are a tropical pest however they may be found in subtropical and temperate regions during periods of high humidity such as those experienced recently. Broad mites feed on a wide range of crops including capsicums, potatoes and cotton. They are tiny (adults are approximately 0.2-0.3mm long) and very difficult to see even using a x10 hand lens. However, a sign that they are present is usually distortion of leaves and the underside of these leaves having a 'wet' appearance even though it is dry. Symptoms may resemble those of 2,4-D damage with leaf margins curling downwards or upwards and leaves becoming hard and brittle.

Shiny wet appearance of leaf under-surface due to broad mite damage. *Photo courtesy D. Lea*

Eggs are laid on the underside of leaves, are oval transluscent and covered with five or six rows of white tubercles. The life cycle from egg to adult is between 6 and 9 days and includes two nymphal stages. Adults are white-yellow with males being extremely active and fast moving. Broad mites will spread from plant to plant by walking, although they are quite happy to hitch a lift on the legs of other small insects such as silver leaf whitefly.

In tropical regions severe infestations of broad mites have resulted in seed yield losses in cotton of between 11 and 54% when plants have been infested early and outbreaks remain uncontrolled. In Australia, broad mite populations can increase rapidly during favourable conditions particularly when humid conditions prevail. During periods of low humidity it is unlikely that populations will be sustained for long periods. Early infestations of broad mite can seriously stunt plant growth and may result in patchy yield loss across fields. At present, the majority of cotton crops have set fruit and reached cut-out so the risk that infestations of broad mite will cause yield reductions is diminishing rapidly. Furthermore with humidity levels forecast to decrease to quite low levels we do not expect populations of broad mite to increase much beyond those encountered in crops at present.



Broad mite adults, nymphs and eggs on under surface of leaf. *Photo courtesy D. Astridge QDEEDI*

Broad mites are usually suppressed by natural enemies including lacewing larvae, predatory mites and minute pirate bugs. If other pests require control use selective options that conserve natural enemies. Addition of a petroleum spray oil may also help suppress the broad mites. Currently there are no acaricides registered for control of broad mites in cotton and it is doubtful that likely yield losses would warrant application for a minor use permit. It is however expected that growers applying acaricides such as abamectin for control of two spotted mite are also likely to control broad mite.