Cotton Catchment Communities CRC
NSW DEPARTMENT OF PRIMARY INDUSTRIES

COTTON *TALES*

Southern New South Wales

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Pest Pressure Considerations 2007/08

Sucking Pest Pressure *Dr Lewis Wilson CSIRO*

Rainfall has been low and variable prompting patchy winter growth in some areas. Cotton may be one of the few green crops over summer for insect pests to concentrate on.

Thrips: In dry areas early season pressure may be quite low. However, in areas of reasonable weed growth or cereal/legume crops thrip pressure may be quite high, although relatively short lived.

Mites, Aphids and Whitefly: A similar pattern might be expected with secondary pests– areas with little vegetation, either cultivated or uncultivated, will probably have poor over winter survival of these pests. Areas where there has been some rain and more weeds and successful crops, combined with a mild winter, may have a higher risk with these pests. This is dependant on the synchrony between these hosts drying out and cotton coming out of the ground.

Mirids: Locally generated populations are likely to be low where there have been few hosts. Patchy rains inland and in western cropping areas, this was mostly late in autumn, and there has been little follow up rain (as of mid Sept). The patches of weeds and crops that have been generated are mostly finishing off or failing and are probably unlikely to give rise to large mirid populations.

Management of mirids involves the use of *less selective insecticides*, which interact with beneficial's and secondary pests. Control should be based on crop growth and retention as well as mirid numbers. Regular sampling of both plant growth and damage and pest numbers is essential –avoiding insurance sprays when retention is high will reduce costs and help conserve beneficial's.

Cotton Crop Scouting - Check seedling crops; especially for mites and aphids to identify any potential problems early.

Aphids: Remember only score aphids that are settled and breeding not adult winged aphids. They may simply be non-cotton species that are test feeding and will not establish on cotton.

Thrips: Dryland or limited irrigation growers will need to balance any early season thrip damage against their predatory activity on mites. If in doubt about thrips but not wanting to take any risk, a seed treatment or at-planting insecticide is less disruptive to beneficial populations than a foliar spray later. Choose the treatment carefully, some will control thrips but not mites, some will interact with later options for aphid control.

Later planted crops will tend to outgrow thrips damage very quickly, while earlier planted crops may suffer more due to higher thrips pressure and cooler growing conditions.

Helicoverpa Pest Pressure *Dr Colin Tann CSIRO*

Helicoverpa pressure is not expected to be high this year. Due to the continuing dry conditions in most areas weed and natural vegetation hosts to fill in as "stepping stones" for population build-up, and existing winter crops have been variable. Migration flights of moths have been observed during the expected late August and early September period, thus indicating some inland breeding, but numbers were not spectacular when compared with years of high moth pressure.

The extensive plantings of chickpea in particular, have produced some activity which has prompted control sprays, and though this activity has been predominantly *H.punctigera*, some *H.armigera* has been detected. Our sampling thus far has failed to pick up any *H.armigera* in cereal crops.

The success of these existing populations will very much depend of the timing and extent of plantings of summer crops, which are essentially weather dependant this year.

Weed Activity

Dr *Graham Charles NSW DPI and Dr Ian Taylor CRDC*

Long periods of dry conditions tend to break down seed dormancy mechanisms that may result in a higher than expected germination of weed seeds when irrigation water is applied or if you are fortunate enough to receive planting rains. In particular Burrs, Thornapple and Sesbania may be prominent after long periods of dry conditions. Growers opting to water up will probably need to apply a planting herbicide such as pendimethalin to provide some extra control and to ensure that selection pressure from glyphosate is minimised.

Indicative plant back periods often should be extended significantly during dry conditions as biological break down of herbicides slows or stops in the absence of soil moisture. Herbicides such as Atrazine depending on the rate applied, may continue to be present for up to 18 months in clay loams with a pH of 7.5 – 8, Ally® may be present between 14 months and 18 months, and Glean® 18 months. Accumulation of greater than 700mm annually is required to effectively break down these herbicides within the indicative plant back period. Careful consideration must be given to previous rotation crops and the herbicides applied prior to planting fields to cotton.

Dry periods can also result in cloddy bed preparation and this may make the incorporation of residual herbicides difficult. A second incorporation may be needed or bed preparation can be aided by tools such as the culti-packer.

Control in high density weed fields can be aided by the use of Roundup Ready® or Roundup Ready® Flex systems. The use of residual herbicides is recommended where weed pressure is known to be high as this will reduce weed competition and ensure favorable yields.