

### **Farm Hygiene Important for Pest Management**

Farm hygiene is an important component of integrated pest management (IPM), particularly when it comes to managing pests such as cotton aphids and Cotton Bunchy Top (CBT) disease. Recent surveys of cotton-growing areas indicate the presence of aphids and CBT in most cotton growing regions. Wet conditions through the coming winter could favour the growth of weeds which host aphids and also increase survival of cotton volunteers that carry CBT into the following season.

In the Macquarie Valley regular rainfall through the summer period has promoted the growth of cotton volunteers, many of which are glyphosate herbicide tolerant. These wet conditions also limited the opportunity for control of these volunteers with some fallow fields and field margins containing quite high densities during the summer. CBT was able to be identified on many of these volunteers and ratoon cotton throughout the region.

CSIRO and Cotton CRC entomologist Dr Lewis Wilson suggests that growers should maintain good farm hygiene to reduce the risk of aphid or CBT problems next season. Cotton Aphids spread CBT when they feed and in the winter both aphids and the disease need a host plant for survival. Therefore it is important to maintain farm hygiene as CBT can stunt the growth of cotton plants, and if plants are infected when young, dramatically reduce yield.

Volunteer or ratoon cotton plants are good hosts that can be found on farms all year. These plants can carry the disease and aphids through winter, allowing aphids to move through cotton crops in the following spring, infecting plants.

While it is likely that CBT will survive on alternative weed hosts, these relationships have not yet been studied.



Cotton leaf showing symptoms of CBT: angular leaf mottling and small leaves (Photo: Lewis Wilson, CSIRO).

“The importance of controlling volunteer cotton in fallows can not be stressed enough. Minimising host availability is critical to ensure that we do not see a repeat of the 1998 CBT outbreak” advises Dr Lewis Wilson.

More information on cotton aphid and CBT can be found on the Cotton Catchment Communities CRC website at

<http://www.cottoncrc.org.au/content/Industry/Publications/PestsandBeneficials/CottonBunchyTopCBTCharacteristicsandModes.aspx>

*Thanks to Dr Dave Murray, Principle Entomologist, QDPI for information in this article.*

### **Variable Rate Application of Fertilisers and Soil Ameliorants following Laser Levelling – A Macquarie Valley Case Study**

Irrigated cotton production in Australia is reliant on laser levelling and landforming to optimise water use efficiency during the growing season and has dramatically increased crop yields. A side-effect of landforming, or “cut” and “fill” operations, is that the suitability of land for crop production may be altered by the removal, addition, exposing or raising of surface or near-surface soil layers. In many cases, the “cut” operation removes a layer of topsoil and exposes significantly more clayey, alkaline and sodic subsoil material which is often associated with poor crop growth and lower yields. This effect is more pronounced in soils which have contrasting horizons, such as the red-brown earths found in the Macquarie and Lachlan Valleys, than in soils which display similar topsoil and subsoil characteristics.

A new Healthy Soils Case Study associated with this issue and based on experiences at ‘Beltana’ Narromine is available at the Cotton CRC website at <http://www.cottoncrc.org.au/content/Industry/Publications/Soils.aspx>.

This case study outlines the economic and production benefits of applying soil ameliorants (lime and gypsum) and a fertiliser blend using zone soil testing and variable rate technology. In some areas the application of fertiliser blend was at rates of 600kg/ha, however this proved to be more economic and had greater production benefits than applying a standard lower rate across the whole area.

The principles of zone soil testing and variable rate soil ameliorant or fertiliser application may also be applicable to fields with large differences in soil types and/or nutrition levels. For more information please follow the above link to the full case study or contact Sal Ceeney.

### **Chemcert Accreditation**

Warren TAFE will be holding a Chemcert Accreditation course on the Tues 20<sup>th</sup> and Wed 21<sup>st</sup> May from 9am to 4:30pm.

Cost is \$295 for the full two day course or \$195 for the one day refresher.

For more information please contact Esther Walker at Mudgee on 02 6378 2625.