



## ***TRAVEL REPORTS***

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### **1. A brief description of the purpose of the travel.**

Dr Murray attended the US 2005 Beltwide Cotton Conferences in New Orleans from 4-7 January 2005 and presented a paper entitled 'Area-wide management of *Helicoverpa* spp. in an Australian mixed cropping agroecosystem'.

### **2. What were the:**

#### **a) major findings and outcomes**

#### **b) other highlights**

Two insect pest management issues that attracted major attention were the new insect transgenic cottons and management of plant bugs/stink bugs.

#### New Insect Transgenics

While Bollgard®II with Cry 1Ac and Cry 2Ab toxins has had a steady introduction into the US cotton market, there was plenty of discussion about the new insect-active transgenics WideStrike™ by Dow AgroSciences and VipCot™ by Syngenta.

WideStrike™ contains genes expressing Cry 1Ac and Cry 1F toxins and was launched at the 2005 Beltwide Conference. As well as being effective against the *Helicoverpa/Heliothis* complex and pink bollworm, it has good activity against some armyworms (*Spodoptera* spp.) that are more troublesome to US growers compared to Australia.

There were many positive reports on the efficacy of VipCot™ containing the Vegetative Insecticidal Protein (Vip) and its potential to manage a broad range of grub pests.

Participants were reminded that none of these technologies were silver bullets and the importance of resistance management was emphasised by many speakers. The wider range of insect toxins incorporated into cotton plants should assist resistance management. At this stage it appears the Resistance Management Plan (RMP) and refuge requirements for these new transgenics in the US will be the same as for Bollgard®II.

#### Plant Bugs & Stinkbugs

Experiences of Australian growers with mirids and stinkbugs were reflected by US producers, consultants and researchers. For the US scene these pests include the *Lygus* spp. complex and stink bugs (green stinkbug (*Acrosternum*), southern green stinkbug (*Nezara viridula*) and brown stinkbug (*Euschistus*). The damaging species vary from State to State. Under low spray conditions offered by the new transgenics, these pests are becoming increasingly important, particularly during the post bloom period.

Bug discussions centred on sampling, thresholds and management. While a couple of new products were flagged for bug management, there is still a very strong reliance on organophosphates e.g. acephate and dicotophos, and to a lesser extent pyrethroids. Of concern was the broad spectrum nature of these products and their adverse impact on natural enemies. A couple of new products offered some selective advantage, but it remains to be seen how well they perform under commercial conditions. At least one of these products (novaluron) is an IGR and appears to be effective against only immature stages (nymphs).

#### New Products

In all the US cotton market has seen four new insecticides registered - Diamond® (novaluron for grubs, beetles and bugs), Prolex® (gamma-cyhalothrin for grubs), Zeal® (etoxazole for

mites) and Fujimite® (fenproximate for mites) with five others (flonicamid, pyridalyl, dinotefuran, metaflumizone and spiromesifen) progressing with development and registration expected in 2005 or 2006.

It was surprising that Silver Leaf Whitefly (SLW) barely rated a mention during the Conference proceedings. This may reflect the fact that only a relatively small area of US cotton is directly affected by SLW.

While not presented at Beltwide, I was informed that the Australian green mirid, *Creontiades dilutus*, is established in southern Texas and causing some damage to cotton crops. It is not known how long *C. dilutus* has been there nor the extent of its distribution. USDA (under Dr John Goolsby) has initiated a study to investigate biocontrol potential and will collaborate with Australian researchers in these endeavours.

**3. Detail the persons and institutions visited, giving full title, position details, location, duration of visit and purpose of visit to these people/places. (NB:- Please provide full names of institutions, not just acronyms.)**

The Beltwide conferences were confined to two New Orleans Hotels – Sheraton and Marriott. No additional visits were undertaken.

**4. a) Are there any potential areas worth following up as a result of the travel?  
b) Any relevance or possible impact on the Australian Cotton Industry?**

I was invited by a Brazilian researcher to participate in an Insect Pest Management Congress in Salvador/Bahia Estate, Brazil on 31 August to 3 September 2005, and to contribute towards their efforts to implement IRM and AWM/IPM programs in their industry.

Information on plant bug/stink bug developments in US will be conveyed to relevant Australian researchers (in particular Dr Moazzem Khan). It is clear that Australian insect pest management research is well targeted and strategically important to minimize the impact of plant bugs and stink bugs on cotton production.

**5. How do you intend to share the knowledge you have gained with other people in the cotton industry?**

Details of insect pest management issues discussed at Beltwide were submitted via Geoff Naylor for inclusion in *The Australian CottonGrower*.

Exchange of information with other researchers will take place on an informal basis in the course of routine activities/interactions.