

# Germinating Ideas

By Craig McDonald, CSD Extension and  
Development Agronomist

This edition of Germinating Ideas will look at a new fungicide seed treatment, Dynasty, available this season. It will also look at managing biotech resistance in Bollgard II cotton in Australia and give an update on the availability of information and trial results from the Fusarium work undertaken by the CSD pathology team.

## Managing biotech resistance

With the first commercial season for

Bollgard II cotton now completed it is important to look at how resistance to the two genes can be prevented.

Bollgard II cotton contains two genes that work to help control *Helicoverpa* once ingested — Cry1ac (which was the sole gene in Ingard) and Cry2ab. The rapid changeover from Ingard to Bollgard II cotton was important so that the single gene Ingard was not further exposed to resistance potential that would have jeopardised the introduction of the two-gene

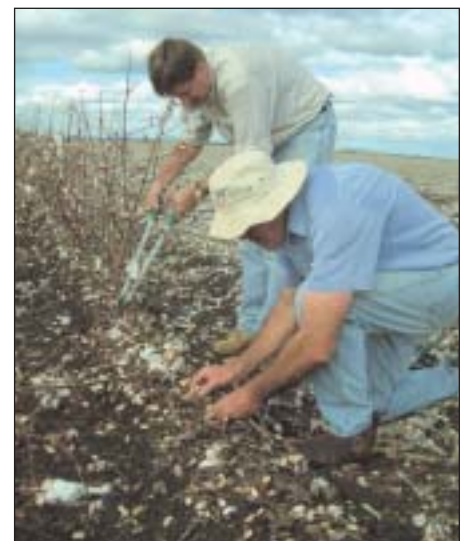
cotton.

Resistance has been found in the Cry2ab gene, which has been a surprise and is very concerning. Resistance to the Cry1ac gene is still quite low but it has the potential to increase given the right conditions. There is a big reliance on the establishment and maintenance of suitable refuge areas and the role of pupae busting in destroying any potential resistant overwintering pupae.

Traditional chemistry for controlling lepidopteran species has shown to have a typical life span of around seven years. This lifespan has already been exceeded with Ingard and now Bollgard II cotton. Managing and being aware of the potential for resistance will be vital to ensure the longevity of Bollgard II cotton production.

Ongoing monitoring of *Helicoverpa* eggs from the field will be important to determine if the resistance frequency is changing. If changes are detected, plans can be introduced to reduce their impact. Early detection of any changes of resistance levels to both genes is the basis for the ongoing use of genetically modified cotton in Australia.

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Stem cutting of a box trial.

## CSD 2005 Information Tour

Goondiwindi - Tuesday, June 14 - 5pm,  
Goondiwindi RSL Club - Dinner to follow at 7pm  
St George - Wednesday, June 15 - 10am,  
The Balonne Skill Centre - Lunch to follow at 12noon  
Dalby - Wednesday, June 15 - 5pm,  
Dalby RSL Club - Dinner to follow at 7pm  
Theodore - Thursday, June 16 - 10am,  
Hotel Theodore - Lunch to follow at 12noon  
Emerald - Thursday, June 16 - 5pm,  
Capricornian Restaurant - Dinner to follow at 7pm  
Hillston - Tuesday, June 21 - 10am,  
Hillston RSL Club - Lunch to follow at 12noon  
Narromine - Tuesday, June 21 - 5pm,  
Narromine Aero Club - Dinner to follow at 7pm  
Bourke - Wednesday, June 22 - 5pm,  
Bourke Bowling Club - Dinner to follow at 7pm  
Walgett - Thursday, June 23 - 10am,  
Walgett RSL Club - Lunch to follow at 12noon  
Warren - Tuesday, June 28 - 5pm,  
Warren Bowling Club - Dinner to follow at 7pm  
Wee Waa - Wednesday, June 29 - 5pm,  
Wee Waa Bowling Club - Dinner to follow at 7pm  
Moree - Thursday, June 30 - 5pm,  
Cascades Theatre - Dinner to follow at 7pm  
Gunnedah - Friday, July 1 - 11am,  
Gunnedah Services Club - Lunch to follow at 1pm

Meetings for *Ditrychanth* and *Fusarium* will be organised in conjunction with the local Growers Association. Growers in these areas will be informed of the dates.

Wee Waa ..... Robert Eveleigh (02) 6795 0000  
Dalby ..... John Marshall (07) 4662 6050  
Narromine ..... Craig McDonald 0428 950 015  
Goondiwindi ..... David Kelly 0428 950 021  
Moree ..... James Quinn 0428 950 028



[www.csd.net.au](http://www.csd.net.au)

### New Dynasty seed treatment available

A new cotton seed treatment will be available for the 2005–06 season on all seed varieties and technologies — conventional, Roundup Ready, Bollgard II and Bollgard II/Roundup Ready. Dynasty contains three fungicides and is produced by Syngenta. The combination of these active ingredients — Azoxystrobin, Fludioxinil and Metalaxyl-M — provides superior early season, broad-spectrum disease control.

Syngenta's trials show that Dynasty controls seedling damping off caused by *Pythium* spp and *Rhizoctonia solani* in cotton. The benefits of Dynasty include:

- Reduced risk of uneven or inadequate plant stands;
- Faster crop emergence; and,
- Increased early crop emergence.

Dynasty is compatible with all currently used insecticides and fungicides for the treatment of cotton planting seed. Normal levels of Dynasty will remain on seed carried over to the next season.

### Fusarium information available


Dr Stephen Allen, Greg McNamara and other CSD staff have concluded many of the FoV (*Fusarium Oxysporum vasinfec-*

*tum*) trials undertaken this season to assess many varietal and agronomic responses to impacts of FoV and how to manage it to reduce its affects.

Some of these trials have included:

- Seed and in-furrow treatments;
- Foliar fertiliser applications, particularly Zinc;
- Integrated disease management programs;
- Stubble management options;
- Crop rotations;
- Box trials;

- Time of planting; and,
- Seed quality and seed vigour index trials.

With many thousands of plots and a large agronomic program to complete as part of the program, the results of these trials will be available soon. New F Ranks will also be included in the comprehensive package of new information available to the cotton industry. A summary of the findings will be available at the CSD Information tour during June. Full details of times and venues for the information tour are available on the CSD website. 



Trial ready for picking in May.