

**The next MIA farm walk will be based on picking. The date and venue will be announced when picking starts up.**

**Healthy Soils Project – Focus Groups Next week – Hillston and Hay**

Helen Squires, Soils Extension Specialist with NSW DPI and the Cotton Catchment Communities CRC will be holding two focus groups in Hillston and Hay next week. These focus groups are being held to obtain grower views on regional soil health issues and to determine how the local industry would prefer delivery of soil management information. This feedback from local industry is vital to ensuring that the needs of the region are being met and that the regional industry has access to soil management research to improve farming systems. Helen's role is the collation of and extension of existing soil research focusing on improving soil health and soil management across the industry.

The focus groups will run for about 1.5 hours.

Hillston focus group. Monday 19<sup>th</sup> of March at the Club House Hotel at 6pm. Dinner will be provided.

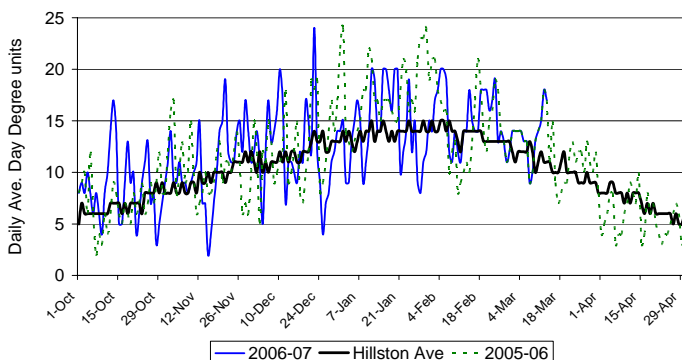
Hay focus group. Tuesday 20<sup>th</sup> of March at the "Shear Outback" at Hay at 12:30. Lunch will be provided.

**Day Degree Accumulation 1<sup>st</sup> Oct – 13<sup>th</sup> Mar**

Met site	06/07	05/06	Aver	CS (*) 06/07	HD(*) 06/07
Benerambah	1976	1908	1673	36 (48)	47 (28)
Carrathool	2020	1868	1679	40 (48)	42 (30)
Whitton	1995	1925	1669	35 (47)	42 (28)
Hay	1933	1905	1737	41 (43)	39 (34)
Hillston	2020	2051	1831	38 (34)	47 (37)

\* Figures in brackets indicate average cold shock and hot days to 13/03/07.

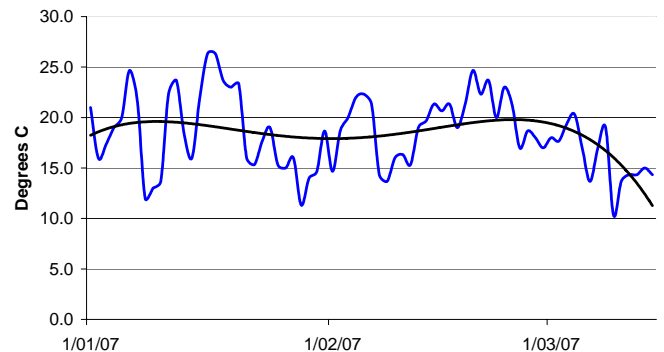
Hillston Average Daily Day Degrees



The impact of cooler night temperatures and how it may potentially slow the effectiveness of

defoliation was discussed at the recent defoliation field day. The following graph presents overnight minimum temperatures for the growing area. There is a definite drop in temperature as we head into March, something that is probably not as noticeable in growing areas further to the north.

Overnight minimum temperature



**Lachlan and Murrumbidgee Valleys Cotton Field Day 21<sup>st</sup> of March 2007**

The field day starts at 12 noon at the Hillston Cotton Gin with lunch. A BBQ will be provided at the end of the day. A free bus will travel from Griffith and Goolgowi to the Gin and return to Goolgowi and Griffith after the field day.

Please see the attached flyer for more information and don't forget to **RSVP**.

**Lachlan and Murrumbidgee valleys Cotton Crop Competition for 2006/2007 Report from the judging panel.**

The quality of the crops was exceptional with high 5 lock boll counts the norm. Management for earliness whilst not compromising yield is commendable as tight water situations have made the season a little trickier for some. Robust Pix® rates have shut down crops nicely, and nutrition management across the board appears to have given crops every chance of full potential.

Congratulations to all the nominees for firstly growing such excellent crops and secondly for supporting the crop competition.

Scott Vaeseen

Thank you also to our judges for the time and effort that they were able to give to the task of judging - Scott Vaeseen, Shane Bodiam and Brendon Barry. We are waiting on final ginned yields for each of the entered crops before the competition can be finalised.



# Lachlan and Murrumbidgee Valleys Cotton Field Day 2007

**Wednesday 21<sup>st</sup> March**

A free bus will be leaving from Griffith  
(from the visitor's information centre) @ 10:00am  
with a pick-up in Goolgowi (from the Park) @ 10:40am

The field day starts at the Hillston Cotton Gin at 12 noon.

The bus will return to Goolgowi and Griffith after a BBQ at the Gin.

**COME CLEAN – GO CLEAN  
NO CARS ON FARMS PLEASE**



Bayer CropScience



Rabobank



NSW DEPARTMENT OF  
PRIMARY INDUSTRIES

## Field Day Program

Cotton Gin – Lunch provided

During lunch:- **Dave Lindsay** - marketing update from Namoi  
**Todd Peach** – Lachlan season overview  
**James Hill and Alan Jones** – Bidgee bankless overview

“Mount View” (Lairds)

**Barry Haskins** – Trial background  
**Ian Rochester** – Nutrition  
**Helen Squires** – Healthy Soils Project  
**Shane Bodiam** with a crop comp overview

“Merrowie Station” (Twynam)

**Craig Macdonald** – CSD trial update  
**Dirk Richards** – Water (Optimisation, Bollgard and Transgenic)  
Refreshments provided at “Merrowie”

Cotton Seed Mill (Wayne Foster)

Inspection of the Mill  
Facilities will be provided at Cotton Seed Mill  
**Shane Bodiam** – Monsanto update

“Steak Plains” (Rural Funds Development)

**Nathan Payne** – Almond development

Cotton Gin - BBQ & refreshments

**Ben Stephens** – AGCRA research role leading to Farming Systems issues and  
Young people in industry and leadership

**Bus to leave Hillston for Goolgowi and Griffith @ approximately 7:30 pm**

**RSVP for your seat and catering to Pat McGuinness.(CCA)  
on 0429 875 815 or 02 6967 1133 or [patmcguinness@cgs.com.au](mailto:patmcguinness@cgs.com.au)  
by this Friday.**

---

---

For further information please contact:

**David Williams**

Acting Lachlan & Murrumbidgee Cotton Industry Development Officer

NSW DPI – Dubbo

Ph: 02 6881 1209 or 0428 401 988

[david.williams@dpi.nsw.gov.au](mailto:david.williams@dpi.nsw.gov.au)

## Results from Bt resistance monitoring 2006/07 until end of February

### ***Hatching, parasitism and species composition***

Across all sampled valleys there were 27338 eggs submitted to the program until mid-February 2007. Of those eggs, 70% successfully hatched, 20% were parasitised (by anything, not just *Trichogramma*) and 39% were *H. armigera*.

**The following table shows the data on egg numbers, hatching, parasitism and species composition separately for each valley.** The % *H. armigera* values do not include hosts that are known to be dominated by this species (i.e., maize and sorghum). It should be noted that the levels of egg parasitism presented in the table are averages for each valley and that the actual levels vary greatly among properties. The values in brackets to the right of % parasitised indicate the range among collections. For instance, for 22 December until 19 January, within the Upper Namoi valley the % parasitism is 27 and ranges from 0 to 100% among properties sampled.

It takes approximately 3 weeks to test material sent as eggs, including scoring for parasites and identifying all hatched material to species. Some collections submitted after mid-February have yet to be scored for all of the characteristics that we measure in the program. These data will be included in the end of season report.

Valley	Trait	14 Nov - 21 Dec	22 Dec - 19 Jan	20 Jan – 16 Feb	Total
Lower Namoi	number of eggs	2753	3928	5553	12234
	% hatch	74	76	76	75
	% parasitised	5 (0-21)	8 (0-30)	26 (0-84)	12 (0-84)
	% <i>H. armigera</i>	3	39	45	38
Upper Namoi	number of eggs	1389	1460	3886	6735
	% hatch	70	42	79	69
	% parasitised	10 (0-33)	27 (0-100)	25 (0-75)	21 (0-100)
	% <i>H. armigera</i>	4	8	36	22
Macintyre	number of eggs	630	209	2176	3015
	% hatch	71	70	76	75
	% parasitised	3 (1-7)	7 (0-25)	53 (4-87)	40 (0-87)
	% <i>H. armigera</i>	15	80	83	59
St George	number of eggs	109	0	149	258
	% hatch	73	-	81	76
	% parasitised	0 (0)	-	0 (0)	0 (0)
	% <i>H. armigera</i>	3	-	14	10
Gwydir	number of eggs	2733	1415	613	4761
	% hatch	53	52	76	62
	% parasitised	31 (0-71)	26 (0-64)	18 (0-100)	27 (0-100)
	% <i>H. armigera</i>	23	44	54	42
Darling Downs	number of eggs	0	0	335	335
	% hatch	-	-	56	56
	% parasitised	-	-	66 (60-73)	66 (60-73)
	% <i>H. armigera</i>	-	-	61	61

### ***F<sub>0</sub> screens for Cry1Ac and Cry2Ab resistance***

F<sub>0</sub> screens are likely to pick up only individuals that are homozygous resistant (RR) to Bt. Around 2% survival is expected as a baseline for the doses of toxins used in the F<sub>0</sub> screens.

**The table on page 3 shows the percentage of larvae surviving the F<sub>0</sub> screens for Bt resistance.** The number of larvae tested is in the parentheses to the right of survivorship. Data are provided separately for different regions, for Cry1Ac and Cry2Ab, and for *Helicoverpa armigera* and *H. punctigera*. Collections submitted after mid February have yet to be scored and will be included in the end of season report.

So far, in all sampled regions the survival of larvae tested in our program is not greater than 2%, and is not higher than the survival detected in previous years. So our **data to date from the F<sub>0</sub> screens do not indicate any major changes from previous seasons in survival rates to discriminating doses of Cry1Ac or Cry2Ab** (see Table on page 3).

### ***F<sub>2</sub> screens for Cry1Ac and Cry2Ab resistance***

F<sub>2</sub> screens can detect heterozygote individuals (RS). They involve testing the grandchildren of pairs of moths raised from eggs collected from field populations, and therefore take about 10 weeks to run. Our screens test for genes that confer high level resistance that is likely to be of threat to the industry.

**The F<sub>2</sub> screens for Bt resistance in the 2006/07 season are in progress and we anticipate their completion in June 2007.** As at 7 March, we have screened 3 lines which were *H. armigera*, and 18 lines which were *H. punctigera*, against both Cry1Ac and Cry2Ab. Thus far, **in the 2006/07 season CSIRO have not isolated any cases in *H. armigera* or *H. punctigera* of alleles conferring resistance to Cry1Ac or Cry2Ab** (see the following Table).

Species	Year	Cry1Ac F <sub>2</sub> screen		Cry2Ab F <sub>2</sub> screen	
		alleles tested	scored positive	alleles tested	scored positive
<i>Helicoverpa armigera</i>	2002/03	136	0	132	1
	2003/04	280	0	284	2
	2004/05	364	0	368	0
	2005/06	900	0	900	4
	<b>2006/07*</b>	<b>12</b>	<b>0</b>	<b>12</b>	<b>0</b>
Total	1692	0	1696	7	
<i>Helicoverpa punctigera</i>	2002/03	8	0	8	0
	2003/04	60	0	60	0
	2004/05	1012	0	1024	1
	2005/06	468	0	468	0
	<b>2006/07*</b>	<b>72</b>	<b>0</b>	<b>72</b>	<b>0</b>
Total	1620	0	1632	1	

\* Screening for the 2006/07 season is in progress.

### ***Screens with 'survivors' from Bollgard II plants***

During the 2006/07 season, we received for testing 231 *Helicoverpa* larvae that were collected on Bollgard II<sup>®</sup>. The larvae were contributed from 5 properties from the Lower Namoi (a total of 10 larvae), 4 properties from the Gwydir (a total of 11 larvae), 4 properties from the MacIntyre (a total of 22 larvae), 3 properties from the Darling Downs (a total of 7 larvae), and at least 5 properties from St George (a total of 181 larvae). We are currently rearing this material in the laboratory and all healthy moths will be submitted to the F<sub>2</sub> screen component of the resistance monitoring program.

*F<sub>0</sub> screens for Cry1Ac and Cry2Ab resistance*

		% F <sub>0</sub> individuals surviving discriminating dose (no. individuals tested)					
		<i>Helicoverpa armigera</i>			<i>Helicoverpa punctigera</i>		
Toxin	Valley	14 Nov - 21 Dec	22 Dec - 19 Jan	20 Jan - 16 Feb	14 Nov - 21 Dec	22 Dec - 19 Jan	20 Jan - 16 Feb
Cry1Ac	Gwydir	0.00 (36)	0.61 (332)	1.25 (161)	0.00 (200)	0.22 (460)	0.00 (55)
	Lower Namoi	0.00 (10)	0.98 (824)	0.68 (1325)	0.36 (842)	0.00 (241)	0.11 (936)
	Macintyre	1.70 (41)	0.00 (82)	0.55 (182)	0.88 (227)	0.00 (10)	0.00 (33)
	Upper Namoi	0.00 (35)	0.54 (120)	0.54 (943)	1.14 (521)	0.00 (202)	0.25 (402)
	Darling Downs	none tested	none tested	0.00 (8)	none tested	none tested	0.00 (6)
	St George	none tested	none tested	0.00 (12)	1.47 (68)	none tested	0.00 (96)
Cry2Ab	Gwydir	0.00 (230)	0.00 (65)	0.00 (33)	0.00 (130)	0.00 (43)	0.00 (6)
	Lower Namoi	0.00 (24)	0.00 (301)	0.00 (430)	0.00 (222)	0.00 (300)	0.00 (55)
	Macintyre	0.00 (23)	none tested	0.00 (87)	0.00 (111)	none tested	0.00 (71)
	Upper Namoi	0.00 (11)	0.00 (120)	0.00 (255)	0.00 (131)	0.00 (105)	0.00 (169)
	Darling Downs	none tested	none tested	0.00 (18)	none tested	none tested	0.00 (6)
	St George	none tested	none tested	none tested	none tested	none tested	none tested