



COTTON TALES

Central Queensland

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2008/09

No.14

15/01/09

Day Degree accumulation to the 14Jan 09

District		Season 08/09	Season 07/08	Season 06/07	Cold Days	Hot Days
Emerald	from 15/09/08	1672	1636	1641	2	25
	from 31/10/08	1160	1070	1111	0	25
Theodore	from 25/09/08	1487	1483	1436	5	28
	From 06/11/08	1038	948	968	1	24

Agrifood Skills Australia Environmental Scan Survey.

Agrifood Skills Australia, represents industries (as well as other areas) at a national level on rural training issues. This involves informing Department of Education, Employment and Workplace Relations (DEEWR), Skills Australia and other key stakeholders of the skills and education requirements of each sector to reverse the labour and skills shortages that currently exist. Information contained within the national training packages used by TAFE, Agricultural Colleges & various private providers must reflect what the rural sector's skills requirements are for a workforce. To gather the grass roots information, this organisation has decided to conduct a national survey to develop a document it refers to as the Environmental Scan 2009. For more information or to contribute to the survey, go to www.agrifoodskills.net.au or contact Mark Hickman (National Training Coordinator) on 07 46881206 or mark.hickman@dpi.qld.gov.au.

FarmReady Reimbursement Grants to address climate change- Online Registrations now available

Australia's Farming Future (AFF) is the Australian Government's \$130 million four-year initiative (until June 2012) to improve productivity & help farmers manage climate change & climate variability. The initiative comprises of 4 elements, of which the FarmReady program is one aspect.

The **FarmReady component** will provide \$26.5 million over four years to improve uptake of risk management and business management skills, increase the use of new technologies, and best practice management to enable primary producers and industries to adapt and respond to the impacts of climate change. The program consists of two separate elements:

FarmReady Reimbursement Grants to individual primary producers and Indigenous land managers to attend approved climate change training activities. A maximum of \$1500/financial year. Funds will be available to cover course costs, as well as associated reasonable travel, childcare and accommodation expenses.

FarmReady Industry Grants to industry organisations to undertake projects that enable their members to adapt to climate change. A maximum of \$80,000/financial year.

Registration & more details of these opportunities are available at www.daff.gov.au/climatechange/australias-farming-future/farmready.

Results from Bt resistance monitoring

Across all sampled valleys there were 15176 samples submitted to the resistance monitoring program until 23 December 2008. Of the eggs submitted, 58% successfully hatched. Of the eggs from cotton & pigeon pea that successfully hatched & the larvae from chick pea, 48% were *H. armigera*.

Valley	Trait	9 Sep-25 Nov	26 Nov-23 Dec
Emerald	No. of samples	988 ^a	352
	% hatch	46 (15-89)	63 (33-91)
	% <i>H. armigera</i>	82 (16-100)	59 (44-76)

% hatched & % *H. armigera* are averages from all samples for the period & the numbers in brackets are the range.

^a 792 individuals from this sample were collected as larvae

F₂ screens for Cry1Ac and Cry2Ab resistance

F₂ screens can detect heterozygote individuals (RS) that have a susceptible (S) allele & a resistant allele (R). These RS larvae are susceptible to Bollgard II®, but if mated with another heterozygote individual, some of their offspring could be resistant (RR). F₂ screens test the grandchildren of pairs of moths raised from eggs collected from field populations, & take 10 weeks to run.

Species	Year	Cry1Ac F ₂ screen		Cry2Ab F ₂ screen	
		tested	positive	tested	positive
<i>H. punctigera</i>	02/03-07/08	3402	0	3414	8
	08/09	156	0	156	0
	Total	3558	0	3562	8
<i>H. armigera</i>	02/03-07/08	2974	0	2978	16
	08/09	32	0	32	1
	Total	3006	0	3010	17*

*10 of these 17 cases have been tested and found to be the same kind of Cry2Ab resistance **labelled SP15**.

F₁ screens for SP15-like Cry2Ab resistance

To increase the number of insects processed during a season, CSIRO developed protocols for testing the frequency of the common Cry2Ab resistance (SP15) detected using a shorter method called an F₁ test.

F₁ screens can detect heterozygote (RS) individuals and involve testing the offspring of a field moth mated with a moth from the Cry2Ab resistant SP15 laboratory colony. This takes around 5 weeks to complete.

Species	Year	Cry2Ab F ₁ screen		
		tested	positive	frequency
<i>H. punctigera</i>	07/08	194	2	0.010
	08/09	136	1	0.007
	Total	332	3	0.009
<i>H. armigera</i>	07/08	278	9	0.032
	08/09	300	8	0.027
	Total	578	17	0.029

Results to date confirm frequency of alleles conferring Cry2Ab resistance (SP15) is about 1 in 100 for *H. punctigera* and almost 3 in 100 for *H. armigera*.