

## RESEARCH INFORMATION

<b>CROP: COTTON.</b>	<b>LOCATION: NARRABRI.</b>
<b>RESEARCHER: AGRISEARCH.</b>	<b>DATE: NOV 02-NOV 03.</b>

### SUMMARY

A field trial was conducted from November 2002 until February 2003, to determine the effect of an array of Vortex Light Traps placed in a cotton field on heliothis *Helicoverpa* spp. moth populations, resultant oviposition, larval infestation, the insect pest/predator complex and crop yield. The trial was conducted in Field 7 at “Auscott”, Narrabri, New South Wales in which irrigated Sicala V-2RR cotton was grown.

The light trap arrays were laid out in the northern and southern ends of the field, with two runs of three or four Vortex Light Traps present. Assessments of the heliothis infestation and other pest and beneficial species present were conducted on cotton within the light trap arrays and in the centre of the field. This latter area was the control to which the effect of the light arrays was compared.

A low, predominantly *Helicoverpa armigera*, population was present for the duration of the season with less than 2 eggs per metre of row recorded at most assessment times. “Peaks” in egg pressure occurred between the 28 January and 6 February, and on the 20 February, when 5-10 eggs per metre of row were observed. Low to moderate populations of several other pest and beneficial species were present.

Oviposition was reduced on cotton present where the Vortex Light Trap arrays were present in the northern and southern ends of Field 7 at “Auscott”, Narrabri. **The number of eggs detected on cotton in the northern and southern arrays was 68% and 54% of that detected on cotton in the central control.**

Under commercial management, the cotton under the influence of the Vortex Light Trap arrays required one less insecticide application to control heliothis than the central control.

The Vortex Light Trap arrays did not negatively impact on predators and beneficial species.



Taking into account crop growth factors, yield was considered to be equal across the field.

**Table 2** Agrisearch Services Pty Ltd - Summary of Results - Narrabri, New South Wales - Mean Cumulative Number of Heliothis Eggs and Larvae per Metre of Row from Terminal Counts and as a Percentage of Central Control After Introduction of Vortex Light Traps.

	Eggs		Larvae	
	Mean Cum.	% of Control	Mean Cum.	% of Control
Northern Array	1.52a	68	0.49a	125
Southern Array	1.22a	54	0.36a	93
Central Control	2.24 b	100	0.39a	100
LSD 95 %	0.52		0.15	

**Table 4** Agrisearch Services Pty Ltd - Summary of Results - Narrabri, New South Wales - Mean Cumulative Number of Damaged Squares and Bolls per Metre of Row from Terminal Counts and Percentage Fruit Retention and as a Percentage of Central Control after Introduction of Vortex Light Traps.

	Damage		Fruit Retention	
	Mean Cum.	% of Control	Mean Cum.	% of Control
Northern Array	0.78a	96	92.49a	105
Southern Array	0.72a	89	88.83ab	101
Central Control	0.81a	100	87.87 b	100
LSD 95 %	0.30		1.88	

**Vortex Comment:** Table 4 reflects less damaged squares and greater fruit retention after introduction of Vortex Light Traps.

End of report.

