



## Resistance Management plan for Bollgard II Cotton:

As planting has commenced it is important all growers are fully aware of the Resistance Management Plan developed for Bollgard II Cotton. The Resistance Management plan was created by Monsanto Australia Limited and the Transgenic and Insect Management Strategy Committee; (TIMS) and adherence is required under the terms of the Bollgard II Technology User Agreement (TUA) and the conditions of the (Agricultural & Veterinary Chemicals Act 1994).. This plan is based on two basic principles:

- 1) Minimizing exposure of *Helicoverpa spp* to Bt proteins.
- 2) Providing a population of susceptible individuals that can mate with any resistant individuals and hence dilute potential resistance.

### **Refuges**

Part of this plan requires each grower to grow a refuge crop which is capable of producing large numbers of *Helicoverpa spp.* moths which have not been exposed to selection with Bt. The refuge crop must be planted a maximum of two weeks after the first planting of Bollgard II cotton has commenced. There are different refuge options available to growers. Special conditions apply to Irrigated Corn and Sorghum.

Table 1: Irrigated Refuge options

Crop	Conditions	%Bollgard II
Cotton	Irrigated, sprayed conventional cotton	100
	Irrigated, unsprayed conventional cotton	10
Pigeon Pea	Irrigated, unsprayed conventional cotton	5
Sorghum	Irrigated, unsprayed - conditions apply	15
Corn	Irrigated, unsprayed - conditions apply.	20

Table 2: Dryland Refuge options

Crop	Conditions	%Bollgard II
Cotton	Dryland or Irrigated, sprayed conventional cotton	100
	Dryland or Irrigated, unsprayed conventional cotton	10
Pigeon Pea	Irrigated, unsprayed pigeon pea	5

### **Trap Crop:**

In Central Queensland a trap crop is also required. If a refuge other than Pigeon Pea has been put in, the trap crop must be planted between November 1<sup>st</sup> and 30<sup>th</sup>. Planting rate is at 35kg per hectare generating greater than 4 plants per metre. It is recommended that the trap crop is watered the same as your cotton as well as an additional water after the cotton is finished. The trap crop must be kept free of weeds. Pigeon Pea destruction can occur between 2 and 4 weeks after the last defoliation of Bollgard II Cotton. This crop must be slashed and pupae busted – with full soil disturbance to a depth of 10 cm across the entire crop area.

For those growers who have planted Pigeon Pea as a refuge, 20% of this refuge area (equivalent to 1% or 2ha of the total Bollgard II area) should have an additional irrigation, 2 - 3 weeks prior to defoliation. The aim is to encourage fresh growth, late in the cotton season and attract *Heliothis* moths to lay their eggs and to keep the “Incorporated Trap Crop” area of Pigeon Pea attractive to *heliothis* until 2 to 3 weeks after the completion of Bollgard II harvest.

All terms and conditions are fully outlined in the Technology User Agreement. However if you have any further enquiries please contact Annabel Wiseman on 0429 979 916.

### **Free Succession Planning Workshops**

CHRRUP have received funding from Blair Athol and Kestrel Community Development Funds and FBA for Succession Planning Workshops facilitated by Isabel Knight and Sarah Reynolds from ProAgvite. These free Succession Planning Workshops will be held:

- Springsure 6 November
- Capella 7 November
- Clermont 8 November.

### **Photos for Biodiversity Calendar**

The Cotton CRC Environment extension team are currently preparing a 2008 Biodiversity in Cotton Landscapes Calendar to be included in the next Spotlight magazine. This calendar celebrates the biodiversity found on cotton growing farms and is filled with practical tips on how you can enhance this wonderful resource. Each monthly theme is supported by a fact sheet. **BUT** we need photos! If you have a photo that you think we might be able to use please email it to Susan ([susan.maas@dpi.qld.gov.au](mailto:susan.maas@dpi.qld.gov.au)).