

### Bollgard II Planting Window

The APVMA has granted a Permit to extend the Bollgard II planting windows due to the extreme situation that the industry finds itself in under the current drought conditions. This request has been approved with some conditions for fields planted in the extension period.

All late planted Bollgard II must have only cotton as refuge i.e. 10% unsprayed cotton or 100% sprayed cotton.

The Bollgard II planting window in the Macquarie has been extended from 15<sup>th</sup> November 2007 to the 1<sup>st</sup> December 2007. This gives 15 extra planting days in the extension period.

For more information, please contact our local Monsanto Australia Business Manager, Shane Bodiam on 0428 777 665.

### Cold Shock

A cold shock is described as an event when the daily minimum temperature falls below 11°C and each event might extend the duration to flowering by 5.2 day degrees (in other words, three cold shocks might delay flowering by one day only). This data came from three years of field sowing date experiments where up to 36 cold shock days from sowing to squaring from early sowings in cool years.

There have been 11 cold shock days measured at Trangie Agricultural Research Institute (TARC) since the 1st October and a total of 26 cold shock events since the 15<sup>th</sup> September. The valley average number of cold shock days for the entire growing season is 42 at Trangie/Narromine at 35 at Warren.

Research conducted by Mike Bange and Stephen Milroy (CSIRO) has shown that negative impacts in cotton growth were not seen until plants had experienced 10 nights at 10°C or 5 nights at 5°C. The research suggests that delays in crop development from cold shock are probably due to more than 10 cold shock days and that no physiological damage to the plant results from small periods of cold temperature exposure.

During October in the Macquarie, there were only 2 events of less than 5°C and no cold shock events since the 18<sup>th</sup> October. With more warm weather forecasted, any crops planted during October should be not be damaged by the cool events at the start of the month.

September in the Macquarie was cool with 6 cold shock events of less than 5°C out of the total of 15 cold shock events in the period from the 15<sup>th</sup> September to the 30<sup>th</sup> September. Crops planted during this period may experience some delays in development due to these cold shock events.

For more information on this research please refer to the article 'Impact of cold shock on early cotton plant development' printed in The Australian Cottongrower, June – July 2006, Volume 27, No. 3.

### Seedling diseases

Planting is all but over in most cotton regions and crops are emerging, as is the risk of seedling diseases.

Seedling diseases are caused by various soil borne fungi which include Pythium, Rhizoctonia and Fusarium. Cool and/or wet conditions promote disease development with seedlings most susceptible in early growth stages. Factors that slow down the rate of germination, emergence and development will ultimately increase the chance of seedling mortality. Some of these factors include poor seed beds, incorrect planting depth, herbicide damage, poor fertiliser placement and poor drainage.

A slow developing seedling is more susceptible to seedling diseases because plant roots produce sugary substances called exudates as they develop. Soil pathogens are stimulated by these exudates.

**Symptoms** of seedling diseases include pre-emergent seed rots, lesions on roots and post-emergent damping-off which shows up as wilted or collapsed seedlings. Other symptoms may include seedlings with slow early season growth, small cotyledons and reddened hypocotyls. The black root rot fungus, which causes blackening of the roots, will not kill seedlings but weakens these and seedlings become more susceptible to other diseases.

Affected plants are usually found scattered throughout the field or in poorly drained areas. When seedling disease is evident in rows, management practices such as fertiliser placement, planting depth or herbicide damage may have contributed to disease levels.

**Assessment** of seedling diseases can be done by counting the number of established plants per metre at several locations across the field. The level of seedling mortality is determined by the difference between estimated stand at 6-8 weeks and the number of seed/metre sown. Losses of seedlings can also be due to seedling pests such as wireworms and seed viability.

**Economic impacts** of seedling diseases include replanting costs and the cost of standard seed treatments. Replanting also leads to delayed maturity and associated yield reductions as well as the cost of late season insect control in conventional cotton crops.

For more information about diseases of cotton and relevant management practices please refer to the Integrated Disease Management guidelines produced by the Cotton CRC and CRDC.

*Thanks to Kate Charleston (QDPI) for this article.*

### Chemcert Accreditation

Cotton Australia is holding a Chemcert Accreditation course at Agriland on Tuesday 30<sup>th</sup> October. There are still places available so if you would like to attend please contact Gus Macrae on 0407 956 586.

The course is provided at cost price to levy paying growers.