

# Germinating ideas

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## BOLLGARD II MANAGEMENT

There has been a lot of industry interest in Bollgard II cotton and this has been reflected in the uptake of the technology. In this first year of limited commercial release many growers have chosen to grow it to gain experience prior to full release in 2004.

In-crop measurements and assessments made last season by CSD at many commercial demonstration sites and variety trials have shown the importance of being on time with management decisions and crop inputs.

This is particularly important with irrigation timing. Potential heavy early fruit loads in Bollgard II crops mean that any stresses may check plant growth, cause fruit loss and limit yield potential. Peak requirements for nitrogen may occur earlier due to the potential early fruit load. Trace elements such as zinc may also be required earlier and in greater amounts.

By giving Bollgard II crops every chance of success this season, it will be an excellent opportunity to get the most from the technology and realise its full potential. There will be many on-farm Bollgard II field days at various trial sites. Growers are encouraged to go along and keep in touch.

### Dryland Bollgard II cotton

Information on dryland or raingrown Bollgard II cotton is somewhat limited due to very limited opportunities for planting dryland crops in 2002. While requirements for both irrigated and dryland can generally be considered similar, these are some additional considerations for dryland production;

- Fallow management — plant Bollgard



Dryland Bollgard II should be planted on fields with the best moisture profile.

II into fields with the best soil moisture holding capacity on a full profile.

- Modify row configuration — wider row spacings will delay cut-out and make the crop more indeterminate.
- Plant population — trials are to be done this season but more plants per metre than conventional higher populations will be required due to less tipping out and branching than conventional cotton. Be aware of gappy plants stands.
- Crop nutrition — soil testing to determine nitrogen levels is desirable and this N may be required earlier. Closer attention and monitoring of other nutrient levels can help plant growth.
- Variety selection — select full season indeterminate lines. Later planting and shorter season areas may also need full season varieties. Varietal fibre quality, particularly length and micronaire, need careful consideration, along with yield.
- Planting date — consider planting

later if moisture is OK. Later planting may help put the crop in a better position to utilise late January and February storms. Earlier planting to avoid late season heliothis may not be an issue.

- Secondary pests — some early mirid damage may not be all bad. Monitor and manage all secondary pests.
- Plant growth regulators — probably not required on most crops. Early applications may restrict vegetative growth.
- Disease considerations — choose varieties with the highest F Rank if planting near irrigation fields with a known Fusarium presence. Identify potential disease or disorders promptly.

## CSD EMERGENCE AND SEED TREATMENT TRIALS

A full program of emergence and seed treatment trials are underway this season in several locations. Emergence trials have been carried out for a number of

TABLE 1: Seed emergence versus final establishment — Emerald conventional trial 2002

Variety	Stand. Germ %	SVI	Seed count /kg	Seeds planted /metre	Total emerged /metre	Final stand /metre	Emerg. %	Losses %	Final Est %
CSX 210	89	165	11715	12.7	9.5	8.9	74.8	4.5	70.3
CSX 729	93	181	9445	12.3	7.9	7.4	64.5	4.4	60.1
SICOT 80	96	171	9295	11.1	8.9	8.5	80.3	2.7	77.6

years and help provide field data on actual seedling emergence and final establishment across a range of conditions. A standardised procedure is used, with all seed lots test weighed and sampled prior to planting to determine accurate seed counts and remnant weighed at the completion of planting.

Seedling counts are carried out during emergence until the plant stand is established with losses recorded and cause identified. The final stand is then compared back to the known number of actual seeds planted and final establishment percentage calculated.

Final emergence results can vary considerably from the actual seed germination percentage and the Seed Vigour Index. Field conditions at, and following planting, have the biggest influence on establishment of acceptable plant stands.

**CSD seed treatments**

These products are in addition to the standard seed treatment products, which are:

- Quintozene, a fungicide applied to seed to provide protection against Rhizoctonia.
- Apron helps provide control of both Pythium and Phytophthora and is systemic.
- Peridiam is a high quality seed coating and is colour coded according to seed type.

Seed treatment trials are carried out each season to assess the effectiveness of the main insecticide coatings against early season pests including thrips, aphids and mirids. Last season the following seed insecticide treatments were compared:

- Nil insecticide (QAP);
- Semevin Super (QASSP);
- Gaucho (QAGP);
- Gaucho Plus (QAGP+); and,
- Cruiser (QACP).

A granular systemic product (Temik) was included as a comparison.

The trials are planted with eight rows per treatment over a minimum of three replicates. Collection of plants is carried out five times with sample seedlings collected intact and put into containers containing methylated spirits. The plant samples are then rinsed through filters to collect the insects present and then stored as samples to be sent for identification at the ACRI.

The trial plots are followed through to yield. Figure 1 shows final yield results of the 2003 trial at Bongeen. Please note that it is one site with one year's data only. More information on the full range of seed treatments is available at the CSD website.



Attendances at recent dryland Bollgard II meetings show an increased level of interest in the new technology.



Industry field days are an excellent way of keeping informed.

**FIGURE 1: Bongeen seed treatment trial 2003**

