

# Who is growing cotton in the Burdekin?

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Before the recent OGTR approval, Queensland Cotton, with the support of Monsanto and the Australian Cotton CRC, oversaw several trial crops under permit between 2004 and 2005 which indicated the region may have potential to produce high yielding, quality cotton.

But it also highlighted the need to better understand the interaction between local climate variables and yield potential. The 2004 season trials sown in May succinctly demonstrated that a winter dry season production window has problems due to conditions being too cold for effective boll development combined with the double whammy of prevalent late winter fogs that



escalated the incidence of foliar diseases caused by *Alternaria spp.*

A second series of plantings during 2005 suggested that an early January planting just prior to the Burdekin's usual late January and February wet season would allow for a June–July pick, thus avoiding cool weather during boll formation and minimising the chances of rain at picking.

The yield and quality of lint picked from the January-sown cotton was of a high standard. But the 2005 season was characterised by fewer rain days than the long term average and the field used was not entirely representative of the greater region in terms of soil type and drainage. All this may under-rate the potential risk posed to a flowering crop during higher rainfall and lower radiation years that occur on average every four to five years. 2006 was one of the wetter seasons with cyclone Larry crossing the coast at Innisfail in early

**Cotton emerges rapidly in the Burdekin with plants appearing within four days of watering up.**

March followed by an extended wet period that lasted until the end of April.

Unfortunately, due to OGTR restrictions, cotton was not planted during 2006 which would have enabled the collection of some data for such comparisons to be made.

The approval of Monsanto's Bollgard II and Roundup Ready Flex traits in Northern Australia in late 2006 and Queensland's lack of moratoria on GM crops has now cleared the way for growers to begin making their own assessment of cotton in the Burdekin. Building on previous activity, several growers indicated a desire to plant small areas of cotton (albeit at very short notice) for the 2007 season and Queensland Cotton, together with members from

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## IN BRIEF...

In 2004 a group of Burdekin growers approached Queensland Cotton to investigate the potential of cotton during the dry season as a crop rotation option for sugar cane. Three years and several trials later, much has been learned and with the recent approval of Bollgard II, Roundup Ready Flex and Liberty Link traits by the Office of the Gene Technology Regulator (OGTR) for commercial use in Northern Australia the question of whether cotton might be a sustainable crop rotation option for sugar cane in Queensland's Burdekin region will be the focus of trial efforts over the coming few seasons.



Numbers grew from the first field walk soon after planting to the picking field day which was well attended by about 25 locals.



Two weeks of wet weather that delivered over six inches of rain to the Burdekin in June broke all previous records (long term average is 26 mm) and caused losses on an already very late finishing crops due to due to boll rots and tight loch.



One of the sites badly affected by 2,4-D spray contamination. Despite the large setback the crop grew on to yield over two bales per acre.

### <13...COTTON IN THE BURDEKIN

the Cotton Catchment Communities CRC, Monsanto, CSD and Deltapine stepped up to lend support to these efforts as part of a longer term strategy to begin assessing the feasibility of cotton in the Burdekin.

### 2007 TRIAL PLANTINGS

The way was clear for planting this year on January 16 when the Australian Veterinary Pesticides and Medicines Authority (APVMA) approved the resistance management strategy for northern Aus-

tralia. This date proved later than initially anticipated and coincided with the start of the wet season. Despite wet conditions, 52 hectares of cotton were sown between three growers spanning January 17 to February 21.

The bulk of the area was planted to Sicot 80BF with a little 60BF and DP12BRF sown at one site. The plantings were subject to more than 400 mm of rain during late January/early February with little apparent ill effect apart from precipitating early rank growth. Each of the crops dem-

onstrated excellent vigour and commenced flowering in March.

Graham Boulton (who some industry people will recognise from the Darling Downs) provided agronomic advice for the 2007 season. For a number of years Graham has provided agronomic services to the region's horticultural crops during the winter months and so was well placed to provide management advice for the three cotton crops.

In terms of inputs, much of this season has been flown somewhat blind with estimates of required inputs being based on experience from southern areas. Nutrition requirements for cotton on local soil types was largely unknown so a similar PKN approach as that used for local maize was generally applied.

Weed control was achieved at some sites with the use of Stomp at planting followed by two to three in-field applications of Roundup Ready herbicide up until inter-row closure. Weeds mainly consisted of a range of barnyard grasses as well as black pigweed and vine species.

Insecticide applications were required for mirids and aphids as well as silver leaf whitefly at one of the sites. Bollgard II provided good control of *Helicoverpa* throughout the season although limited survival was observed during April after a short period of extreme egg pressure. *Spodoptera litura* were prevalent in all crops during March and April and whilst causing no direct damage, are a pest that will need to be considered in the future from a resistance management perspective.

Contamination from 2,4-D was a problem this season and has provided a great lesson for local growers to learn on relatively small areas. One planting was very badly affected by 2,4-D through boom

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contamination and considered for abandonment but the grower, Lindsay Hall decided to continue growing the crop for the sake of experience.

Climatically the crops experienced a much wetter than average start but entered March–May with relatively dry conditions and warm temperatures that were ideal for boll formation. The crops which were sown a month later than what is considered to be ideal then slowed considerably as cool wet conditions were encountered in June and July.

North Queensland experienced mean temperatures 3°C below the long term average for June and July while breaking all previous rainfall records with over 150 mm in June compared to the long term average of 26 mm. With the late plant, 2,4-D damage, some nutritional difficulties, June rain, very cold winter temperatures (exacerbating the late start) and the relative inexperience of the three growers, the results for this season make it difficult to generalise about crop performance.

Rank growth which was a problem at one of the sites due to untimely rainfall and short term Pix unavailability, compounded the impacts of unseasonable rain in June in terms of increasing the level of tight loch and boll rots. This was disappointing as up until the June rain this crop had shown considerable yield promise.

After a drawn out finish, picking was commenced during the third week in August. Yields were low with field averages varying between 1.3–2.5 bales per acre. All quality parameters in terms of length, strength and colour were good with the exception of low micronaire which was largely due to the late plant resulting in the crop finishing during very cool winter conditions.

While obviously low, the yields need to be viewed in the context that most of this season's limiting factors related to late planting, nutrition application difficulties, Pix management, 2,4-D contamination should be potentially preventable from the outset going into 2008.

### GROWER INTEREST

Given that the 2007 trials were always going to be on the back foot due to the unexpectedly late approval to plant, the trial sites were used for maximum advantage to educate local growers at monthly field days. These field days provided an opportunity for local growers to observe the various stages of production and get a feel for the inputs and crop management decisions that have been made along the way.

These events have been increasingly well attended as interest in cotton has spread

amongst the local grower community. After starting with a core group of about a dozen growers that have attended field days in previous years, numbers peaked at around 25 for the picking field day held on August 10.

### TOWARDS 2008

A Burdekin steering committee (NORCOM) was convened for the first time in May 2007 to discuss a pathway forward for coming seasons. Representation on the committee included Burdekin growers, Queensland Cotton, QDPI&F, CSIRO, Black Earth Cotton Co, Monsanto, CSD, Deltapine, CRDC, Cotton Australia, AC-GRA and TIMS. This committee will provide guidance to the R&D program and proactively counter industry development

issues. It was generally agreed during the first meeting that there are many agronomic unknowns and that local growers will need considerable support during a pre-commercial phase until the feasibility of cotton becomes clear.

This will involve varied forms of assistance from the different industry stakeholders. Early indications from growers suggest up to 800 hectares of cotton may be planted in the 2008 season. NORCOM will meet in early October to map a path for this season's crop. We look forward to updating *Cottongrower* readers on developments in the Burdekin over the coming seasons.

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