

# 'Back to the Future' for cotton in southern NSW

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## SECTION 2 THE FUTURE

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**T**he recent expansion of cotton into southern NSW is not a totally new thing for the region. In fact, cotton was first grown in the Riverina in the 1960s. A cotton gin was established at Darlington Point in 1964 and the CSIRO conducted a cotton breeding program for many years at Griffith.

Cotton was the first row crop grown on Ravensworth Station at Hay and Kooba Station at Darlington Point. The cotton industry did not continue to expand mainly due to the lack of true short season varieties and seasonal rains during autumn which would have been detrimental for cotton harvest.

Ironically it was George Commins who started growing maize, replacing cotton as a row crop in the mid sixties at Kooba Station. George is the father of second year Murrumbidgee cotton growers Roger and Tim Commins who are now growing cotton in 2007–08.

Cotton returned to southern NSW in the mid eighties (325 hectares in 1986–87) when it was grown at Hillston by the Maillor family who continue to grow cotton today. Production then expanded into the Murrumbidgee valley in 1999 with a trial area of 400 hectares at Twynam's property Gundaline Station and it was also being trialled at Lake Marimley north of Balranald. The maximum area in southern NSW was approximately 16,000 hectares in 2000–01, but last season was only 3250 hectares due to reduced river allocations (Lachlan 2450 hectares and Murrumbidgee (800 hectares). This was all grown using irrigation bores.

### Why are southern irrigation farmers looking at cotton?

#### Dollars per megalitre

Reduced water allocations are driving farmers to look at improving their return per megalitre. Some of the southern irrigation farmers see cotton as an attractive option at over \$400 per bale, especially when seed price is factored in. Yields have been very high in the past couple of seasons across both valleys and returns at 12 bales per hectare compare well to other summer crops such as corn and rice.

#### Marketing

Growers like the fact that cotton can be sold on the futures market three years in advance. But the complexity of cotton marketing is something that will take time for new growers to fully appreciate. It is very different to the other summer crops which either offer an indicative price or a price for the particular growing season.

#### Another crop

Cotton is simply seen as another irrigation crop. The majority of last season's cotton crop grown by new growers was grown using bankless channels. Cotton has a good fit as it is a summer broadleaf crop which is glyphosate tolerant (Roundup Ready) and can be farmed (with the exception of harvest) using conventional row crop equipment. Barnyard grass is a major weed in the MIA so cotton has a great fit with growers using grass selective herbicides in addition to the glyphosate.

### Why can cotton now be grown successfully in the south?

#### Varieties

The main reason cotton growers are achieving both excellent yields and early maturity is due to the fantastic work the seed breeders have done producing new shorter season varieties.

#### Transgenic cotton

New growers see Bollgard II and Roundup Ready technology as major features that attracted them to cotton. Previously growers did not think that the high dependence on insecticide sprays and associated application issues would have fitted in the Riverina.

There are large areas of vineyards and horticulture including vegetables, fruit and nuts spread throughout the area. Ironically, many of these industries were using and continue to use the same products that the cotton industry was using prior to transgenic varieties.

#### Change in season

Without entering into the debate surrounding climate change there certainly has been a seasonal change with recent seasons becoming hotter and drier. The past three years average day degrees (DD) has been considerably higher than the average and

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Main southern field day at Commins Farm, Whitton.

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there has not been the traditional autumn break meaning that it is staying dryer for longer. This is one of the reasons yields have increased, as a lot more top crop is being finished and the majority of harvest has not been affected by any significant rain events.

#### Issues and challenges faced

##### Water availability

The main issue slowing down the expansion of the industry is low water allocations. Last season is the first one where there was no allocation for general security water on the Murrumbidgee River. All of the 2007–08 crop was grown using groundwater.

##### Planting and crop emergence for earliness

Planting can be quite a challenge in the southern area due to the cold air masses that can feed in from the south right through summer. It is vital that the crop has an even plant stand, as the cotton plant in the south does not always have the same ability to compensate as in the warmer areas.

##### Defoliation

It is vital that crops are cut out on time so that earliness can be achieved. This year crops were treated with mepiquat chloride growth regulator as early as mid January without any perceivable yield penalty.



One of the IPM field walks during the season.



A planting workshop was held at the start of the season.

##### Picking

Cotton harvest equipment has always been promoted as an issue, but in the recent drought reduced seasons, contract machines have been available.

##### Competition from other commodities

This coming season rice, the traditional MIA crop, is worth up to \$550 per tonne and maize is worth approximately \$400 per tonne. Therefore cotton needs to be priced well (at around \$450 per bale) to compete and be attractive as an alternative to the traditional summer crops.

##### Diseases

Diseases in the southern area include black root rot, Pythium and Rhizoctonia which can be a real issue in cold seasons. Management tools include seed treatments and pre irrigating — or ensuring there is a warm weather pattern following the water up irrigation. Seedling mortality last season was 48 per cent for the Murrumbidgee (compared to 41 per cent average) with black root rot presence at 17 per cent.

##### Insect pests

With the introduction of transgenics and Bollgard II, *Helicoverpa spp* is no longer the main insect pest for cotton. For the MIA the main pest affecting cotton would be the false wire worm. Due to years of returning stubble from summer crops (maize and rice) and winter crops (including cereals and faba beans) the number of false wire worm can be large and the result of their feeding can be serious. And because plants often grow slower in the colder conditions, they are vulnerable for longer periods of time.

The other main insect pests are mirids, yet with diligent checking they can be controlled using the recommended insecticides. Growers are very conscious of what they spray to control secondary pests such as mirids, as many of the growers in the MIA grow seed crops which rely heavily on bees, making it essential to use selective chemistry where possible.

Mites can be another issue in the MIA especially as the maize crops dry off and become less attractive. For the past two seasons growers have monitored mite populations yet have not had to control them.

#### Future expansion

Any industry expansion will be slow as it is obviously affected by water availability in combination with price competition. Cotton is being treated just like any other crop by the MIA growers who grew cotton this year. In the coming season some growers may switch back to rice due to the high prices being offered.

Like anything, the higher the potential for return the higher the risk. Cotton is comparably high in growing cost when compared to maize and rice. In addition, adverse weather conditions, particularly at the end of the season, could be more costly for cotton in terms of yield and quality compared to maize and rice.

Thanks to Ernie Silcock from the Australian Ginning Co, Hillston for providing yield information. Also Craig Farlow of CSD for providing variety tables.