SECTION 4
AREA ROUNDUP

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NEW SOUTH WALES

Macquarie Valley

By Sally Ceeney

Just 3210 hectares of cotton were grown in the Macquarie Valley in 2007–08. The season was characterised by low water allocation, mild temperatures and higher than average summer rainfall. The valley average yield was 9.5 bales per hectare.

Varieties

Sicot 71BR was the most dominant variety grown (approximately 80 per cent of plantings) with the remainder made up mostly of Sicot 43BR, DP556BR and Sicala 60BR.

Establishment

Generally good, although cooler early season conditions meant there was some incidences of seedling disease and black root rot and some fields were slow to emerge, particularly in the southern end of the valley.

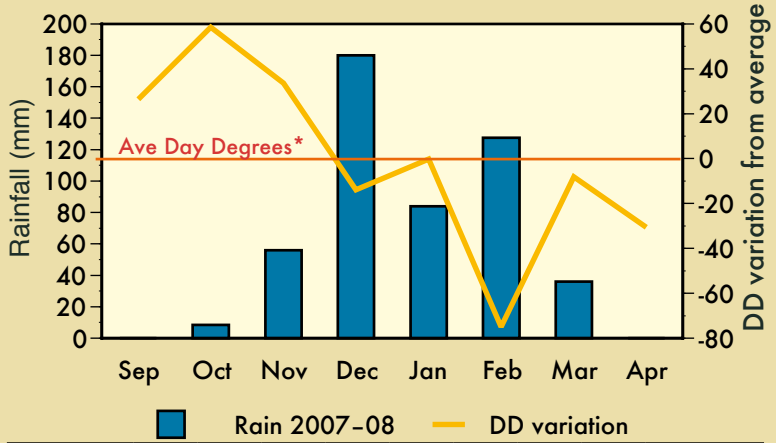
Weather conditions

The 2007–08 season was characterised by mild temperatures and higher than average rainfall. The total cumulative day degrees from September 1 to April 30 was 2457 which is quite close to the long term average. But conditions were still reasonably mild this growing season as the day degrees for February and the number of hot days for the season were well below average. There were just 18 hot days in 2007–08, compared to the long term average of 29. Just one of these hot days occurred in February, while there were three cold shocks during that month.

The 2007–08 season was also much wetter than average. Over 375 mm (15") of rainfall was recorded at Trangie Agricultural Research Station during the period November 1 to March 31. The average rainfall at Trangie for this period is 235 mm. This caused problems with waterlogging and the increased amount of cloud cover may have reduced the amount of plant growth by limiting photosynthesis. End of season conditions were good with a warm, dry April.

Warren 2007–08 seasonal climate

Total Day Degrees: 2457 (–9); Total rain: 492 mm (+154)



Days	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
Cold shock	25	13	1	0	0	1	5	17	62 (+4)
Hot shock	0	0	3	2	9	1	3	0	18 (–11)

*Average day degrees from 1957 to 2008.
Source: CSIRO Plant Industry.

Macquarie Valley cotton area

Insect pressure

H. punctigera pressure was very low early season. Significant egg lays did not occur until late December, and coincided with the start of the summer rainfall. Pressure was then low to moderate mid

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PLEASE NOTE...

This section contains a seasonal climate graph for each production area which compares day degrees, rainfall, hot days and cold shocks with the long term calculated average. It is important to note that the long term average figures used here relate to the 1957 to 2008 period, and will differ from the Bureau of Meteorology's long term average information which generally goes back further (particularly for rainfall).

The information used for these graphs was generated using data provided through the SILO project, a business unit of the Bureau of Meteorology, and made available through funding from CRDC.

Further information regarding these organisations can be found at:

- CSIRO Plant Industry at *www.pi.csiro.au*;
- Cotton Catchment Communities CRC at *www.cotton.crc.org.au*;
- The SILO project at *www.bom.gov.au/silo*; and,
- The Cotton Research and Development Corporation at *www.crdc.com.au*.

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season, and dropped off again late in the season. *H. armigera* pressure was minimal during the season.

Mirid pressure was low but fairly constant throughout the entire season with most crops receiving just one mirid spray.

Mites and aphids did not cause any significant problems, while some fields suffered heavy thrip damage at the seedling stage.

The cotton stainer bug emerged as a new pest in the Macquarie this season, as it favours mild and wet conditions. It is commonly seen in cotton crops and in native vegetation — but this was the first time it was seen in numbers large enough to cause economic damage. Most crops received a spray for the pest.

Disease incidence

There were some incidences of seedling disease and black root rot in the southern part of the valley. No new outbreaks of Fusarium were identified. There was some minimal Alternaria present and some isolated reports of Verticillium wilt.

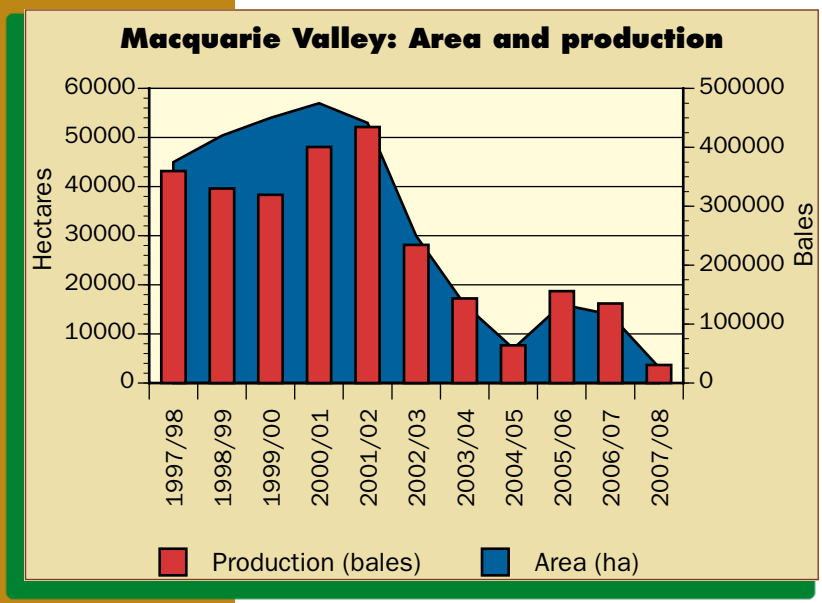
The general low disease pressure may be more indicative of the small amount of cotton being grown, rather than a decline in the amount of disease present in the valley.

Technology performance

Bollgard II technology performed reasonably well, although there were a number of cases of heliothis survivors being found on crops mid to late season requiring control. The causes for this reduction in Bollgard II efficacy are unknown and require further investigation.

The Roundup Ready and Roundup Ready Flex technology performed well, providing good weed control in most fields. There were reports of some of the new Flex varieties yielding very well.

But glyphosate tolerant volunteers and ratoon cotton continue to be a problem to control, which was exacerbated by the wet summer. Volunteer and ratoon cotton in fallow fields and around field edges were seen to be hosting large populations of aphids.



Other management issues

Crop damage from phenoxy herbicide drift was a major problem in the 2007–08 season. Contributing factors to this were:

- An increase in the number of summer fallow sprays due to higher than average summer rainfall;
- Higher prices for glyphosate, making phenoxy herbicides more cost effective;
- The small amount of cotton grown in the area, meaning that many landholders may not have been aware of any sensitive crops being grown nearby.

It is estimated that at least 50 per cent of the entire crop had visible phenoxy herbicide damage. Of this, about half suffered a yield reduction of one bale per acre, while the other half suffered a yield reduction of 2.0 to 2.5 bales per acre.

Irrigation

With zero general allocation from Burrendong Dam, the majority of crops were grown on groundwater allocations. The higher than average in-crop rainfall meant that most crops received five to six irrigations while some had even less. Waterlogging was a problem for most crops, with some fields receiving up to four inches in a single rainfall event just prior to Christmas and many crops experiencing more than one waterlogging event.

The rainfall also meant that some crops which had been planted without enough water to finish the season were able to be harvested, and suffered no apparent yield penalty when compared to the valley average yield.

Defoliation

Warm and dry conditions late in the season resulted in a generally good defoliation.

Yield information

The valley average yield was 9.5 bales per hectare for a total production of 30,500 bales. The range of yields was wide, from 7.0 to 12.5 bales per hectare.

Quality was excellent this season. The majority of cotton was in the 3.8-4.5 micronaire range, with only a few instances of high and low micronaire.

Colour has been excellent with the majority 21 or 31. Length, strength and leaf have all been good.

Next season prospects

Burrendong Dam is currently at 17 per cent and there is zero general allocation for the Macquarie Valley. Storage levels will need to increase significantly before we see any major irrigation prospects for the valley in 2008–09.