

Harnessing yield potential of twin row cotton

By Jim Bible, Farm Agronomist, Agriland Pty Ltd

Macquarie valley farming enterprise Agriland Pty Ltd has been exploring novel ways of increasing yields.

In 2005–06 we compared three alternative sowing configurations in order to develop a system that would allow maximum yield and water use efficiency. The results from the trial are indicated in Table 1.

We were most surprised by the yield of the twin row cotton. Especially considering it was an extremely hot growing season and the twin row was watered at the same time as the conventional 40 inch cotton.



Jim Bible.

The twin row cotton was showing signs of water stress with each irrigation.

The management team at Agriland Pty Ltd considered the twin row option as an alternative to the 15 inch system currently being used in the cotton industry.

In order to build on its experience from the previous season, we decided to plant a 30 hectare field to twin row this season on the Burritippi property. We selected our dirtiest field and planted the CSD variety Sicala 43 BRF to test the benefits of the Roundup Ready Flex system. Bladder Ketmia is a major problem in this field.

The Sicala 43 RRF crop received two well timed over the top applications of Roundup Ready herbicide on October 27 and December 12. A third post directed spray was applied on December 29. Tight irrigation schedules post December and the inability to get the spray into the canopy after this time, meant that we had to apply the Roundup Ready herbicide at this time.

The twin row cotton was planted using an eight metre John Deere vacuum planter, offsetting two sowing operations at a width



The excellent control of Bladder Ketmia is demonstrated by this clean field.

of 15 inches between plant rows. Traditional 15 inch cotton is planted with four rows per bed as compared to two rows in this system. Twin row cotton will be harvested using John Deere 15 inch heads.

Agriland management see the potential for the system to be used on the heavier soils types on their properties. Red soils which don't infiltrate laterally under the current system don't work, as we have seen in part of field 16 this year which contains a small corner of red soil. The use of standing cover crops as used by other farms in the valley may alleviate this problem.

If the twin row continues to yield better than our 40 inch system, then we will just have to work through the management problems, and come up with solutions.

The current challenges with the system include increased land preparation incorporating the use of bed shapers as well as crop residue management.

TABLE 1: Trial results

System	Area (ha)	Sowing rate (kg/ha)	Yield (bales/ha)	Yield (bales/ac)
Twin row – flood irrigation	5	22	13.76	5.57
15 inch – drip irrigation	3.2	36	13.3	5.4
40 inch – drip irrigation	2.2	15	12.55	5.08
40 inch – flood irrigation	Balance of field	15	12.55	5.08

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