

Sensational “ Super Singles”

By Peter Birch, B&W Rural, Moree

Farmers in lower rainfall districts now have another viable crop option according to the result of trials conducted by B & W Rural. This new crop production system, labelled as “Super Sin-

gles”, involves an innovative row configuration system and Bollgard II/Roundup Ready technology. It will enable cotton to be grown as a comparable economic alternative to sorghum and sunflowers.



Bernie Bierhoff and Lisa McMillan with some of the Super Singles plants.

What are “Super Singles”?

“Super Singles” is a dryland cotton configuration of one sown metre row, with a two metre row interval — one in, two out.

This particular row configuration was chosen for a number of reasons:

- To maximise moisture availability to the crop throughout the growing period.
- To minimise downgrade penalties on lint quality.
- To maximise the savings in harvest costs through the ability to use the two outside heads of a four row picker.
- To make use of a cotton plant’s ability to forage for stored soil water from over 1.5 metres depth.

Why conduct this trial?

The trial was conducted for a number of reasons:

- With the current superior cotton varieties yielding in excess of 12 bales per hectare, the Super Single configuration theoretically has the capacity to yield over four bales per hectare.
- Late season heliothis pressure has been a major concern in the past for conventional dryland cotton. Insecticide costs could blow-out and significant crop damage was possible. Recent technology advances — such as the introduction of Bollgard II and Roundup Ready cotton varieties — have enabled the virtual elimination of insecticides to control

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heliathis and possible reduction of pre-plant herbicides. As a result, most variable costs are known prior to planting. This is further enhanced by the fact that Super Singles only attract one third of the licensing fee for Bollgard II and Roundup Ready technology, as the grower only pays for green hectares.

- Under the resistance management plan, November 15 is the last day for planting Bollgard II. But cotton has the ability to perform well over a wide planting window — from mid September to November 15. Planting date will essentially be determined by planting rain and, to a lesser degree, stored moisture. Conversely, the planting window for a crop such as sorghum is not as flexible with cotton having a superior ability to tolerate extreme heat compared to sorghum.
- An added bonus when growing cotton as opposed to sorghum is that the price of cotton is not influenced by domestic factors. The cotton price is determined by New York Cotton Futures and is based on global supply and demand. In other words, a good season here can



Picking Super Singles with the outside heads of a four-row picker.

coincide with good cotton prices — but that is rare for domestic coarse grains.

Possible disadvantages of the system

- The potential for herbicide drift and damage when taking cotton to non-traditional cotton areas.
- No stockfeed value after harvest
- Controlling the cotton bush after harvest.
- A mandatory plough-down (cultivation to 10 cm) when growing Bollgard II.

Super Singles field trial

The Super Singles trial was conducted in field 46 at “Avondale”, a property owned by Bruce Harris & Co, managed by Bernie Bierhoff. Avondale is located near Rowena, approx 120 km west of Moree.

The trial was planted into a field that had been fallowed through from a soy-bean crop harvested in May 2003. Fallow management consisted of one working followed by several herbicide sprays for weeds.

The Super Singles were sown into a full profile of moisture (plant available water 206 mm) on November 12, 2004 using three varieties — DP556 BR, Sicot 289 BR, and Sicot 189 RR (unsprayed refuge), at a planting rate of 13 seeds per metre. The trial received a total of 125 mm of in-crop rainfall falling in November and December, when the crop was squaring. No effective rainfall fell on the crop during the main growing period — it survived and developed almost solely on stored soil water.

One over-the-top application of Roundup Ready herbicide was applied at a rate of 1.5 kg per hectare on December

1, 2004 followed by a shielded spray application on February 12, 2005 with an additional 1.0 kg per hectare of Diuron. Only one insecticide application on February 3, 2005 of 45 ml per hectare Regent was applied when the irrigated cotton nearby required spraying. This also coincided with the fertiliser application of 5L per hectare of Complete K and 200g per hectare of Boron.

A further 5L per hectare of Complete K was applied with 800 ml per hectare Pix on February 21, 2005. All applications coincided with sprays on the irrigated cotton nearby.

First defoliation took place on April 12 by ground rig, using 60 ml per hectare of Dropp Liquid, 4L per hectare Cotton Quik and 2L per hectare Intac Oil on a 30 per cent band. A second defoliation by air occurred 14 days later with 60 ml per hectare Dropp Liquid, 2.5L per hectare Prep and 2L per hectare Intac Oil. Picking began approximately five weeks later.

Total growing costs for the Super Singles, including picking, were \$522 per hectare (see Table 1). For Avondale, a yield of three bales per hectare (from module weights as the cotton is yet to be

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TABLE 1: Gross margin for Super Singles trial

	\$ per hectare
Gross income (A)	
3.0 bales per hectare @ \$370 (net)/bale less 10% refuge	\$999
Variable costs	
Seed	\$29.91
Licencing BG II & RR	\$113.85
Herbicides	
OTT Roundup Ready	\$16.28
Layby Roundup Ready	\$2.53
Diuron	\$13.20
Insecticide Regent	\$4.46
Growth Regulant Pix	\$2.32
Defoliation 1	\$10.30
Defoliation 2	\$12.82
Consultancy	\$30.00
Cartage	\$13.20
Operational costs	
Planting	\$25.00
Shield spraying	\$20.00
Ground spraying	\$27.00
Picking (contract)	\$198.00
Tarps & ropes	\$3.30
Total costs (B)	\$522
GROSS MARGIN (A-B)	\$477

ginned) sold at a possible price of \$370 net will give a gross margin of \$477 per hectare. For this crop, the break-even yield was 1.4 bales per hectare (just over half a bale per acre).

A VIABLE ALTERNATIVE

After conducting this trial, it is evident that the Super Singles row configuration is a viable alternative to growing sorghum in the areas west of Moree. This innovative row configuration demonstrated an ability to grow and give a viable return while relying solely on stored soil moisture.

It minimised expenses via reduced harvest costs and reduced licensing fee for both Roundup Ready and Bollgard technology. It also decreased the previously variable insecticide and herbicide costs to a relatively known level.

It has long been a catch-cry, that to successfully grow dryland cotton in the western districts, you should follow the 5 x 5 theory — five feet of mud and a \$500 price. Maybe now growers can afford to drop their sights to a 4 x 4 theory (four feet of mud and a \$400 price).

Further trials are planned this year to investigate the water use patterns of dryland cotton crops in wide row configurations in conjunction with the CSIRO.

Many thanks to Bernie Bierhoff, Robert Harris, Ken Harris, Bruce Harris and the late Lisa McMillan for their cooperation and efforts in conducting the Super Singles trial.

For further information please contact Peter Birch, B & W Rural, 0428 669 157.



Soil pits were dug to show the depth of cotton roots under 'Super Singles'.

Farewell, Lisa

Lisa McMillan
1980–2005

It was with great sadness in late June of this year, that we farewelled one of our most loved agronomists — Lisa McMillan — after a single vehicle accident on Sunday, June 19, claimed the lives of Lisa and her fiancé John Hamilton.



Lisa had been working as an agronomist for B & W Rural, Collarenebri since April 2004 after a long history with the company. Lisa's connection with B & W Rural began in the summer of 1998–99 when Lisa and her older sister Belinda began working as bug checkers in the Collarenebri area.

The "dynamic duo" checked for B & W Rural throughout their respective university degrees, until in 2002, Lisa graduated from the University of Queensland, Gatton Campus with a Bachelor of Applied Science (Agronomy). Following graduation, Lisa took on a casual position with the company that soon led, through her hard work and dedication, to full time employment as a cotton and broadacre agronomist, based in her beloved Collarenebri.

Growing up on a property near Collarenebri, she was an extremely practical and versatile person and once given the opportunity, Lisa endeared herself to the Collarenebri farming community. Her relaxed and laid back nature, underpinned by her extreme dedication and capability meant that she quickly gained a base of loyal clients and supporters.

While her weekdays were devoted to agronomy, her weekends were dedicated to her family and partner, friends — and of course — polocrosse. Horses were a passion of Lisa's, with most weekends consumed by travelling to or from a polocrosse carnival; and most weekday mornings — before sun up — spent training her treasured horses.

Our memories of Lisa are always fond, whether it be carrying the "binoculars" in an attempt to find that elusive bird in the field; her uncanny knowledge of arachnids of the world; her need to carry a can of fly spray in the "high-luxury" in a bid to eradicate problem flies; contacting the radio station daily requesting funky songs; a simple call for agronomy advice or just her smiling face in the Collarenebri branch.

Lisa's quiet and somewhat reserved nature were part of her enchanting personality. Her charisma and charm were far reaching, and her perfect smile and the sparkle in her eye will forever be remembered in circles Australia wide, whether as a colleague, an associate, or a friend.

Gone, but most definitely not forgotten.

With love, from the team at B & W Rural, clients and associates.