



Varieties Containing Bollgard®3 Technology

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Cotton Seed Distributors (CSD) is currently conducting a large, commercial scale variety performance trial program in both irrigated and dryland production systems, to facilitate the introduction of a new suite of varieties containing the Bollgard 3 technology in the 2016/17 cotton season.

The program includes an extensive replicated variety testing and evaluation program across full fields incorporating the CSD Ambassador Network. This analysis gives great insight into the field performance and how these varieties respond to varying commercial management conditions within the Australian cotton Industry.

The CSD E&D team aims to enable growers to be comfortable with these new varieties and their management. Cotton growers will be able to see these varieties in the field at a series of field days conducted in 2016. [Find out more \(http://bollgard3-staging.wd.com.au/research/field-days/\)](http://bollgard3-staging.wd.com.au/research/field-days/) about your local field day.

Comparisons between Varieties Containing Bollgard® 3

CSIRO and CSD are committed to releasing new varieties that deliver performance improvements in terms of yield, fibre quality, disease resistance and regional adaptability. Importantly the agronomic and management characteristics of the new varieties are in line with the expectations of Australian cotton growers.

Establishment:

Results experienced with previous low density varieties will continue with the new varieties containing Bollgard® 3 technologies. In direct comparisons with Sicot 74BRF in trials last season the new varieties showed a slight improvement in average establishment over Sicot 74BRF. However, as witnessed every season there is a considerable variability in the establishment achieved across different locations and planting conditions. Generally, the CSD E&D team has witnessed in trials this season Sicot 746B3F and Sicot 74B3F have similar establishment percentages. Sicot 714B3F achieved approximately 10% better establishment and Sicot 754B3F was

approximately 10% weaker in establishment, and growers should take these observation into account when considering variety choice and planting

Table 1: Establishment from CSD Variety Trials.

Source: 6 CSD trial sites - 2014/15

	Av. Estab%	Range
Sicot 746 & 748B3F	67.5	46-87
Sicot 754B3F	67.8	49-80
Sicot 714B3F	71.2	58-87
Sicot 74BRF	60.0	28-87

Table 3: Longer term small plot trial data, cotton varieties containing Bollgard® 3

Source: CSIRO 3 Seasons - 18 sites

Trial Variety	Yield (b/ha)	Rel. Yield %	Turn Out %	Len	Str	Mic
Sicot 714B3F	14.0	96	42.2	1.20	30.4	4.5
Sicot 748B3F	14.6	101	44.0	1.24	31.0	4.6
Sicot 746B3F	14.6	101	45.3	1.21	30.8	4.6
Sicot 754B3F	13.9	96	43.1	1.25	31.4	4.5
Sicot 71BRF*	13.6	94	41.0	1.22	30.2	4.4
Sicot 74BRF*	14.5	100	44.3	1.23	30.5	4.7
Sicot 75BRF*	14.0	97	43.2	1.26	30.9	4.6

* Check varieties containing Bollgard II

rates. Through the CSD Trials and Ambassador Network this season where establishment problems have been observed additional agronomic factors have been evident which has hindered the establishment of the cotton crop. The CSD E&D team remains committed to developing products and extension packages which will improve the establishment of these elite cotton varieties through the FastStart™ Cotton program.

2014/15 Season's Results

In the 2014/15 season ten commercial sized irrigated trials, featuring either two or three of the new varieties were planting, with Sicot 74BRF grown in the balance of the field. Table 2 shows the yield and quality from six of these trials that included all four varieties within the trial and therefore conform to industry standards.

Encouragingly we have witnessed a 2.3% increase in yield over the current industry benchmark of Sicot 74BRF.

CSIRO has been conducting yield, quality and disease ratings on

varieties containing Bollgard® 3 technology over the past three to four seasons across a number of regional sites. Table 3 summarizes this longer term data, with preliminary disease rankings for the new varieties containing Bollgard® 3 provided in Table 4.

Further Evaluation:

During the 2015/16 cotton season the CSD Extension and Development Team has an extensive trial and evaluation program in place to fully test, monitor and evaluate the new suite of varieties containing Bollgard 3. Currently CSD has a commercial scale variety trial program spanning the length and breadth of the Australian cotton industry with 48 irrigated sites and 14 dryland sites. Additional monitoring and evaluation is being carried out in 58 irrigated and 10 dryland commercial cotton fields as part of the CSD Ambassador Network.

It is envisaged that information and experience gathered from these sites will enable CSD to provide growers and crop manager's relevant information which can be used to inform decision making and the performance of the new suite of varieties containing Bollgard 3. Additional trials are being carried out examining the disease resistance to Fusarium and Verticillium wilt in conjunction with the CSIRO and State Departments of Agriculture to bolster the existing data set to allow greater confidence in the disease ranking.

Table 2: Varieties containing Bollgard® 3 technology : Yield and Quality

Source: 6 CSD trial sites - 2014/15

	Yield	Rel. Yield %	Len	Mic.
Sicot 746 & 748B3F	14.1	102.3%	1.20	4.2
Sicot 754B3F	13.0	94.5%	1.25	4.0
Sicot 714B3F	13.6	98.8%	1.19	4.0
Sicot 74BRF*	13.8	100%	1.19	4.2

* Check varieties containing Bollgard II

Table 4: Preliminary Disease Rankings for new varieties containing Bollgard 3

Source: CSD and CSIRO data

	F.rank (Fusarium)	V.rank (Verticillium)
Sicot 746B3F	139(9)	102(1)
Sicot 748B3F	135(5)	100(1)
Sicot 754B3F	155(5)	101(1)
Sicot 714B3F	130(7)	101(1)

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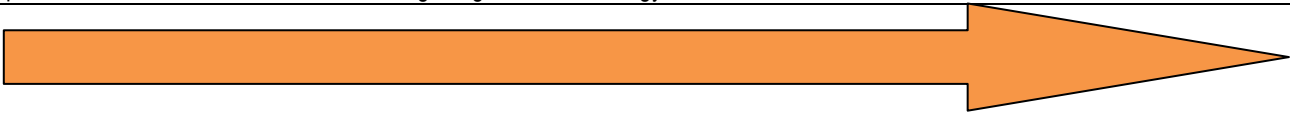
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Table 5: Comparison of varietal characteristics containing Bollgard® 3 technology.

Maturity			
			
Sicot 714B3F	Sicot 746B3F	Sicot 748B3F	Sicot 754B3F
<p>A mid to full season, normal leaf variety with excellent yield potential.</p> <p>Suitable for irrigated and dryland growing scenarios.</p> <p>Foliage is dark green.</p> <p>A compact growth habit. Avoid stress early in flowering period</p> <p>A large boll size and a tendency to fruit earlier in the season, more suited to shorter season growing areas.</p> <p>Care at planting should be taken to ensure the correct plant population is established to ensure optimum yield.</p> <p>Resistant to Bacterial blight. Similar Fusarium and Verticillium Wilt disease resistance to current commercially available varieties.</p>	<p>A full season, normal leaf variety with excellent yield potential.</p> <p>Suitable for irrigated and dryland growing scenarios.</p> <p>Foliage is dark green.</p> <p>An intermediate growth habit depending on boll load and seasonal conditions.</p> <p>A large boll size and a tendency to fruit late into the season, careful management post cut-out is desired to reach full yield potential.</p> <p>Seed density is lower than Sicot 714B3F, so care at planting should be taken to ensure the correct plant population is established to ensure optimum yield.</p> <p>Resistant to Bacterial blight. Similar Fusarium and Verticillium Wilt disease resistance to current commercially available varieties.</p>	<p>A full season, normal leaf variety with excellent yield potential.</p> <p>Suitable for irrigated and dryland growing scenarios.</p> <p>Foliage is dark green.</p> <p>A vigorous growth habit depending on boll load and seasonal conditions.</p> <p>A large boll size and a tendency to fruit late into the season, careful management post cut-out is desired to reach full yield potential.</p> <p>Seed density is lower than Sicot 714B3F, so care at planting should be taken to ensure the correct plant population is established to ensure optimum yield.</p> <p>Resistant to Bacterial blight. Similar Fusarium and Verticillium Wilt disease resistance to current commercially available varieties.</p>	<p>A full season, normal leaf variety with excellent yield potential.</p> <p>Suitable for irrigated growing scenarios.</p> <p>Foliage is lighter green compared to other varieties.</p> <p>A vigorous growth habit.</p> <p>A medium to large boll size and a tendency to fruit late into the season, careful management post cut-out is desired to reach full yield potential.</p> <p>Higher fibre qualities especially length offers opportunity in the marketing of this variety</p> <p>Seed density is lower than Sicot 714B3F, so care at planting should be taken to ensure the correct plant population is established to ensure optimum yield.</p> <p>Resistant to Bacterial blight and class leading resistance to Fusarium wilt. Similar Verticillium Wilt disease resistance to current commercially available varieties.</p>

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