

New CSIRO varieties for next season

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The CSIRO cotton breeding team is releasing seven new varieties to the industry for the 2002 planting. There are two new conventional varieties and five new transgenics. All of these varieties will be available through CSD in the coming season. Following are details on the new varieties and where we recommend they are grown.

NEW CONVENTIONAL VARIETIES

Sicot 71

Sicot 71 offers growers a four per cent yield increase over Sicot 70. Sicot 71 is a full season, normal leaf variety with a compact growth habit. It is more determinate than Sicot 189, and so easier to manage in terms of vegetative growth. Its micronaire approaches that of Sicot 189, and is an improvement on Sicot 70 for cooler areas. When grown in cooler areas, management should allow the crop to mature fully.

Sicot 71 requires favourable conditions at planting for good establishment. It is susceptible to cotton bunchy top, so care should be taken to maintain good aphid control if bunchy top is confirmed to be present. Sicot 71 has good Verticillium tolerance and has some Fusarium tolerance, being similar to Sicot 70 (F Rank=110 (9)).

Sicot 71 is broadly adapted, having performed very well in trials from Central Queensland to Warren. But in shorter season areas, it will require careful management. Sicot 71 was entered in 20 large scale CSD trials this season, topping 14 of them, being second in five and third in the other. An excellent result from Warren to Emerald.

Sicala 43

Sicala 43 is a normal leaf variety with a compact growth habit, and good standability. It produces large bolls. It has an intermediate maturity between Sicala 40 and Sicala V-2 and is relatively determinate — but not to the same extent as Sicala 40 or Sicot 70. Its fibre characteristics are very good.



Sicot 289RRi combines both Roundup Ready and Ingard in the Sicot 189 background and has similar performance to Sicot 289i.

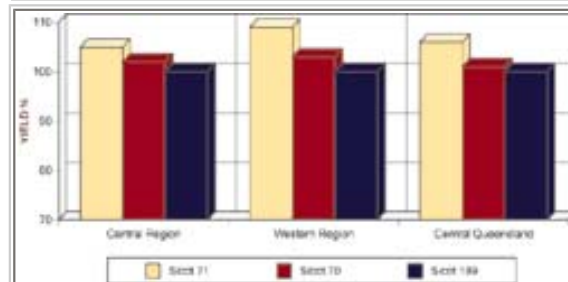


FIGURE 1: Yield performance of Sicot 71 compared to Sicot 70 and 189

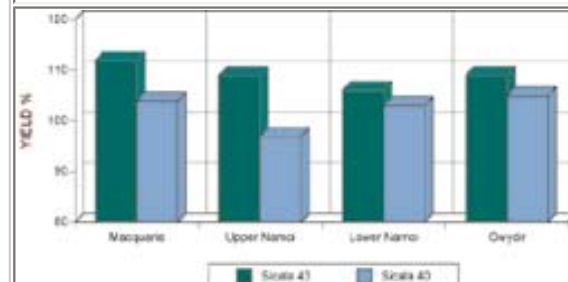


FIGURE 2: Yield performance of Sicala 43 compared to Sicala 40

Sicala 43 has good Verticillium tolerance and Fusarium tolerance similar to Sicala 40 and Sicala V-2 (F Rank=63(3)). Further data on its relative Fusarium tolerance is being gathered across a range of sites, but it is not recommended for situations where Fusarium is established.

Sicala 43 has shown excellent yield potential in CSIRO trialing in central, southern and eastern areas.

NEW TRANSGENIC VARIETIES

CSIRO has released a number of new transgenic varieties for this next sowing season. These include three Ingard/ Roundup Ready varieties and two Ingard varieties.

Varieties containing the Roundup Ready trait have been tested at multiple sites for at least two years. This includes yield, agronomy and fibre properties; fusarium resistance ranking; and Monsanto also require crop tolerance testing to prove Roundup Ready varieties are not affected by label rates of Roundup.

Varieties containing the Ingard trait have been tested at multiple sites for at least two years. This includes yield, agronomy and fibre properties in sprayed and unsprayed fields; fusarium resistance ranking; and Monsanto also require gene equivalence testing to prove Ingard varieties express the Ingard gene equal to a standard.

Varieties containing both Roundup Ready and Ingard have to comply with both requirements. Fibre properties of these varieties are very similar to their recurrent parent. (Table 3).

Sicot 289RRi

This variety combines both Roundup Ready and Ingard in the Sicot 189 background. It is similar to Sicot 289i in most aspects. Fusarium tolerance is similar to Sicot 289i (F Rank=110 (3)). Sicot 289RRi also has good Verticillium wilt resistance. Sicot 289RRi is adapted to full season locations and vigorous vegetative growth under favorable conditions may need to be managed by growth regulators.

Three years of multisite data have shown that Sicot 289RRi had very similar performance to Sicot 289i (see Figure 3).

Sicala 40RRi

This variety combines both Roundup Ready and Ingard in the Sicala 40 background. It is similar

TABLE 1: Fibre quality of Sicot 71 compared to Sicot 70 and 189

Variety	Length	Strength	Micronaire
Sicot 71	1.16	31.5	4.0
Sicot 70	1.18	30.9	3.8
Sicot 189	1.20	32.2	4.1

Data from a total of 37 trials over three years

TABLE 2: Fibre quality of Sicot 43 compared to Sicot 40

Variety	Length	Strength	Micronaire
Sicala 43	1.16	31.9	4.2
Sicala 40	1.16	32.8	4.2

Data from a total of 21 trials over three years

TABLE 3: Fibre quality of transgenic varieties and their recurrent parents

Variety	Length	Strength	Micronaire
Siokra V-16	1.19	32.3	4.1
Siokra V-16i	1.19	32.0	4.1
Siokra V-16RRi	1.19	32.6	4.2
Siokra V-17	1.14	30.7	4.4
Siokra V-17i	1.16	31.5	4.5
Sicala 40	1.16	32.3	4.3
Sicala 40i	1.18	30.9	4.3
Sicala 40RRi	1.15	31.4	4.4
Sicot 189	1.20	32.7	4.3
Sicot 289i	1.18	31.5	4.5
Sicot 289RRi	1.18	32.2	4.5

Average of 20 sites in the 2000-01 and 2001-02 seasons

RRi relative to Sicot three seasons

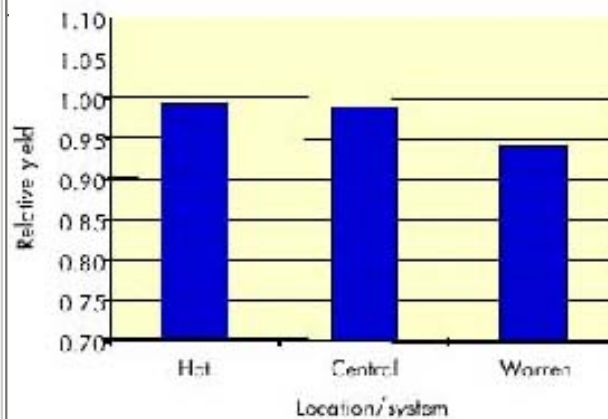


FIGURE 4: Yield of Sicala 40RRi relative to Sicala V-3i at a range of sites over two seasons

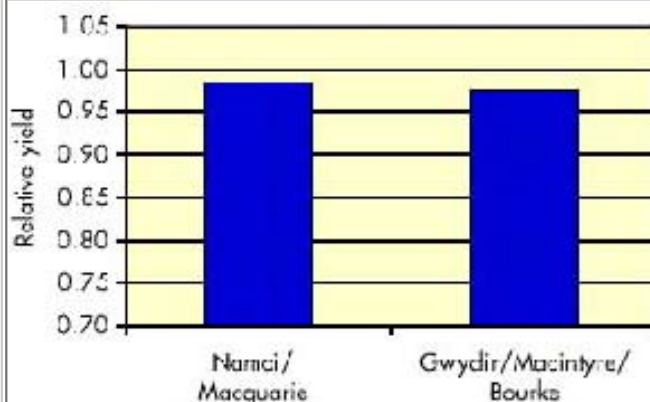


FIGURE 5: Yield of Siokra V-16RRi relative to Siokra V-16i over two seasons

to Sicala 40 in most aspects and is adapted to central and southern locations free of Fusarium wilt.

Two seasons of testing have shown good performance of Sicala 40RRi when compared with Sicala V-3i, being within two per cent of yield in all data. Of interest is that the performance of Sicala 40RRi was relatively better for southern locations.

Siokra V-16RRi

This variety combines both Roundup Ready and Ingard in the Siokra V-16 background. It is similar to Siokra V-16 in most aspects and is adapted to dryland and production systems free of Fusarium wilt.

Two seasons of testing has shown performance similar to Siokra V-16i, particularly under raingrown conditions.

Sicala 40i

This Ingard variety is in the Sicala 40 background. It is similar to Sicala 40 in most aspects and is adapted to central and southern locations free of Fusarium wilt. Three seasons of testing has shown good performance, being similar to Sicala V-3i but with earlier maturity.

Siokra V-17i

This Ingard variety is in the Siokra V-17 background. It is similar to Siokra V-17 in most aspects and two seasons of testing have shown good yield and adaptation to southern and eastern locations.

Fusarium resistance is similar to Siokra V-17. It is not recommended for situations where Fusarium is established. Siokra V-17i is well adapted to those areas where problems of pests and Verticillium wilt occur together, in the cool growing regions.

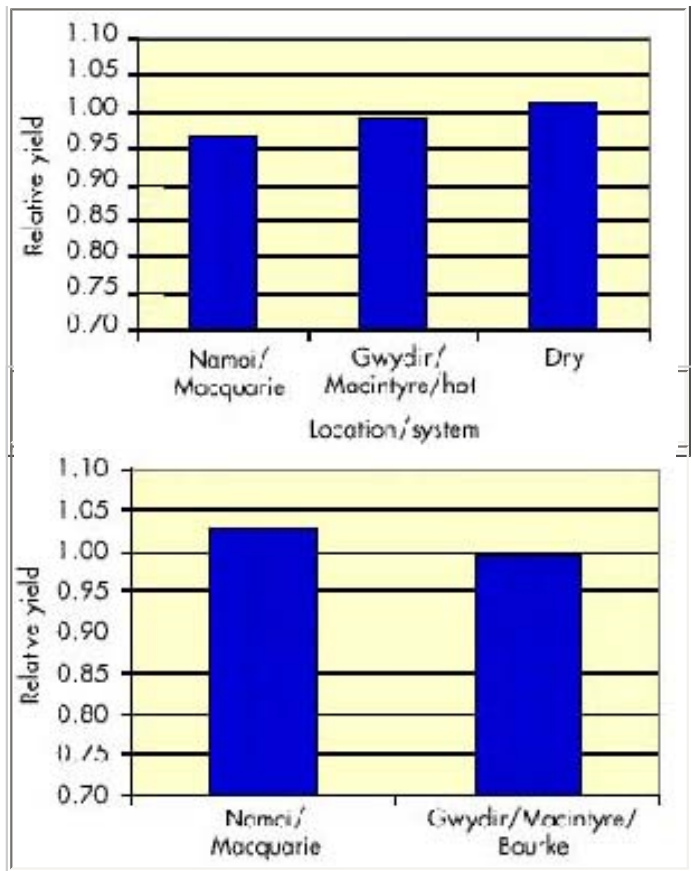
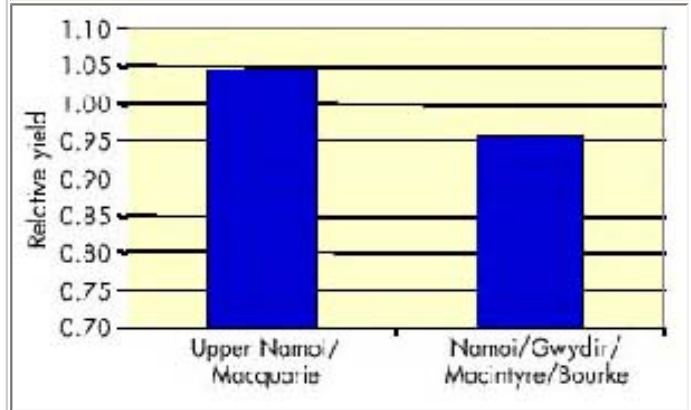


FIGURE 7: Yield of Siokra V-17i relative to Sicala V-3i at a range of sites over two seasons



From left: Greg Constable (CSIRO) and John Marshall (CSD) inspect one of the seven new varieties released by the CSD for the 2002 planting season