TWO NEW CSIRO VARIETIES

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The CSIRO breeding program at the Australian Cotton Research Institute at Narrabri aims to develop locally adapted varieties for use by Australian farmers. The program has been very successful in developing varieties for all cotton growing areas with ten conventional and five INGARD varieties (the latter subject to regulatory approval) available through Cotton Seed Distributors (CSD) for 1996 planting. The products of the breeding program have brought many millions of extra dollars to farmers and have been vital in maintaining the strength of the cotton industry. Key advances from the CSIRO breeding program include the development varieties with okra leaf (for insect and mite tolerance), better disease resistance (particularly bacterial blight and Verticillium wilt), improved fibre quality and good adaptation to cool growing areas.

For 1996 planting CSD have available two very promising new CSIRO varieties - Sicot 189 and Siokra S-101.

Sicot 189

This vigorous growing normal leaf variety is a replacement for the very successful CS 189+. Sicot 189 is very similar in most characteristics to CS 189+ and the two are almost identical in appearance. The key advantage of the new variety over its predecessor is an average 5% greater yield. Much of this yield increase is attributable to a 1-1$^1/_2$ % greater lint percentage (ginning out turn). The fibre quality of the two varieties is very similar (Table 1).

Table 1. Comparisons of Sicot 189 and CS 189+ over 40 trials.

	Yield as % of CS 189+	Ginning %	Length (ins)	Strength (g/tex)	Micronaire
CS 189+	100	38.5	1.19	29.1	3.8
Sicot 189	105	40.1	1.20	29.1	3.8

Like CS 189+, Sicot 189 is a full season variety, with an erect growth habit and good disease tolerance. Sicot 189 has very good tolerance to Verticillium wilt and, like all CSIRO varieties, is resistant to bacterial blight. Sicot 189 is also amongst the best for tolerance to the serious new disease, fusarium wilt. Like its predecessor, Sicot 189 is very widely adapted being suited to most growing areas but if grown in cooler environments care needs to be taken to manage it carefully for earliness. Sicot 189 is often responsive to growth regulators.

Siokra S-101

This compact growing, early maturing okra leaf variety has a number of very significant advances over its predecessor Siokra S324. In averages of 41 trials over four seasons Siokra S-101 has outyielded Siokra S324 by 13%, but in the short season Breeza and Brookstead areas the advantage has been over 30%. Much of this advantage is due to the much better disease tolerance of S-101, particularly to Verticillium wilt. Siokra S-101 also has better premature senescence tolerance, its leaves staying green much longer at the end of the season. While it is superior to Siokra S324 in fusarium wilt tolerance it is not as tolerant as the best varieties such as Sicot 189, Sicala V-2 and CS 8S.

Siokra S-101 has bolls which open more fully than Siokra S324 and tends to pick more cleanly, particularly after rain. In terms of fibre quality Siokra S-101 is significantly longer and stronger than Siokra S324 and has a similar micronaire (Table 2). Because of its early maturity and okra leaf Siokra S-101 is best adapted to cool growing areas with insect and mite problems. It is also a good option for late planting.

Table 2. Comparisons of Siokra S-101 and Siokra S324 over 41 trials.

	Yield all sites as % of S324	Yield Breeza & Brookstead as % of S324	Length (ins)	Strength (g/tex)	Micronaire
Siokra S324	100	100	1.16	27.1	3.9
Siokra S-101	113	130	1.19	28.7	3.9

Conclusions

These two new CSIRO varieties considerably strengthen the CSD range, with the versatile Sicot 189 being an attractive option in most growing areas and the excellent yield and better disease tolerance of Siokra S-101 likely to be a great boon in cool environments.

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