√ H 85 to 89 1989/CS11C.

FINAL REPORT

CS11C: DEVELOPMENT OF IMPROVED COTTON VARIETIES

OBJECTIVES:

To develop high yielding, disease and pest resistance varieties with readily marketable fibre quality.

This project is a long-running one concerned with breeding varieties adapted to Australian conditions, growing practices and markets. During the interval of this particular grant much progress occurred with the development of the original Siokras and Sicala's from a breeding program that began in 1974. The development of Siokra has been widely regarded as a noteworthy achievement since it marks the first time anywhere that an okra leaf variety has been successfully and widely grown commercially. The significance of the okra leaf has been that it has provided some tolerance to *Heliothis* and considerable tolerance to mites. This pest tolerance has resulted, where keen attention has been paid to pest management, in the savings of two or even more sprays. Very importantly both Siokra and Sicala had genes for bacterial blight resistance incorporated and had ready marketable fibre. These properties led to their readily acceptance by cotton farmers and they soon comprised between 65-75% of total Australian cotton plantings.

During the life of this project [CS11C] a slightly higher yielding, better quality Siokra 1-2 was developed and replaced the original Siokra 1-1 commercially. Similarly Sicala 3-2 as an improvement on Sicala 3-1, was developed. Sicala 3-1 and 3-2 had longer fibre and slightly better strength than DP90 and were hailed as premium cottons in the market place.

The period of the grant also saw progress towards the development of a number of lines which subsequently have been released as varieties. They included Sicala 33 with a five percent yield advantage on Sicala 3-1, the high yielding Siokra 1-4 and the equally high yielding but stronger fibred Siokra L22. Importantly also the period of the grant saw our development of the first Australian bred varieties with tolerance to Verticillium wilt, namely CS189 and Sicala V1.