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**COTTON RESEARCH AND DEVELOPMENT CORPORATION**

Noted 10.11.92  
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**PROJECT CODE:** CSP 30N

**PROJECT TITLE:** Breeding Verticillium tolerant cottons and Bt transgenic cottons

**ORGANISATION:** CSIRO Cotton Research Unit

**STAFF INVOLVED:** Mr P E Reid, Dr N J Thomson, Mr L Heal,  
Mr T McCumstie, Ms L Carpenter

**FINAL REPORT**

- 1) The development of Verticillium Wilt tolerant cultivars for commercial use is progressing well. The first season of commercial production of our tolerant variety, Sicala V1, was most successful with very good yields being obtained in a broad range of situations. Our extra focus on selection for Verticillium tolerance has identified new V1 types with up to 9% greater yield than V1 in two seasons of multi site trials while maintaining good disease tolerance. Preliminary seed increase of an improved V1 will commence in the 1992/93 season. The high priority we have given to the development of an okra leaf variety with Verticillium tolerance is also achieving encouraging results with the first such line entering preliminary seed increase in 1992/93 following a very good yield performance in the 1991/92 season.
- 2) The incorporation of the gene for the Bt toxin into CSIRO cotton cultivars and lines is progressing well with the fourth backcross of seven of our lines having been completed. As well we are currently developing lines derived from an earlier backcross which will be homozygous for the Bt gene. The first Australian field testing of these lines containing the Bt gene will be carried out in the 1992/93 season.

This project was a transitional one covering only one year to enable the incorporation of all our CRDC breeding projects under one submission (CSP 40C). Thus the vital work to develop Verticillium tolerant and Bt transgenic cottons will continue in that project.

**PUBLICATIONS**

Reid, P.E. (1992). CSIRO short season varieties. In 'Proc. 6th Aust. Cotton Conf.', pp. 123-127. (Ed. Swallow, D.C.)

Reid, P.E., Thomson, N.J., Mann, G., Patrick, C.M., Heal, L.J. and Constable, G.A. (1992). The Australian Cotton Cultivar Trian results for the last two seasons. In 'Proc. 6th Aust. Cotton Conf.', pp.129-133 (Ed Swallow, D.C.)

Thomson, N.J., Reid, P.E. and Constable, G.A. (1992). CSIRO cotton varieties. In 'CSD 1992 Trial Results', pp.29-30 (Ed. Windeatt, G.)

Thomson, N.J. (1992) CSIRO mainstream varieties. In 'Proc. 6th Aust. Cotton Conf.' pp.115-121. (Ed. Swallow, D.C.)