

# SUMMARY

## DAN 95C - DISEASES OF COTTON (V)

The results of disease surveys have indicated a declining incidence of Verticillium wilt and seedling diseases and an alarming increase in the prevalence of Fusarium wilt, black root rot and Alternaria leaf spot. Bacterial blight and Alternaria leaf spot have become significant problems for Pima growers in the Bourke area.

No new fungicide seed treatments have been significantly better than the current standard Quintozene Apron treatment and the use of planter-box or in-furrow fungicide treatments was not found to be warranted under Australian environmental conditions at planting.

An integrated control strategy which included resistant cultivars, removal/incorporation of crop residues and rotation with non-hosts resulted in a more rapid decline in the incidence of Verticillium wilt compared to the use of resistant cultivars alone. Repeated use of resistant cultivars in a field experiment at ACRI has resulted in the development of a possible new strain of the Verticillium wilt pathogen.

The widespread use of permanent bed systems and the introduction of legumes into cotton production systems has contributed to the increased prevalence of black root rot. No fungicide seed treatment, crop rotations or cultural practices that were evaluated provided adequate control of black root rot of cotton.

The incidence of Fusarium wilt in field E2 at 'Morella' near Boggabilla has fallen from 13.4% to 3.4% in three seasons as a result of the use of a more resistant cultivar. Summer flooding, trash management and crop rotation experiments have been established in commercial fields in the McIntyre and Gwydir valleys. Remote sensing by thermal imagery enabled quick location of possible Fusarium wilt infected plants when images were taken in January after full row closure from an altitude of 1500 'feet'.