BOLLIGARD GEN, COTTON AS AN ALTERNATIVE FOR IPM IN DELICIAS, CHIHUAHUA, MEXICO

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Abstract

Bt Cotton varieties are a new industry technology, which provide good control of boll/budworm populations. Bt Cotton varieties were tested in Northern Mexico under Commercial conditions from July to September 1998. The varieties were DP-33B, DP-35B, and DP5690 (Conventional variety). All Bt Cotton Varieties had good control of boll/budworm and reduced one application versus the conventional variety. DP-33B had the best yield, around 20%, versus conventional variety under Chihuahua, State conditions.

Introduction

The Boll/Budworm historically has been a destructive pest of Cotton in Chihuahua State. This pest has been reported to have some degree of resistance to pyrethroids and organophosphate insecticides. That problem has evoked an interest by University of Chihuahua to find a good alternative in order to provide good control of lepidopterans and reduce the pesticide impact on natural enemy populations, and environment. That alternative is to use Bt Cotton Vaireties.

Objective

To demonstrate Bollgard gene cotton varieties as alternative control measures for control of bud/bollworm and compare them to conventional varieties under Chihuahua State conditions.

Material and Methods

This study was conducted in the cotton region located in Delicias, Chihuahua, Mexico during 1998. The Bollgard gene varieties tested were: DP-33B, DP-90B, DP-32B, DP-35B, DP-5690 (Conventional). Planted date April 8, Planted area 1 Ha. Pest control for boll weevil Regent/7Applications, Vydate one application, bud/bollworm none application parameters evaluated squares damage and bolls damage, yield, and profit.

Conclusions

- $ Bollgard gene varieties had better control of bud and bollworm than conventional varieties in Chihuahua, Mexico.
- $ Bt varieties reduced one application of conventional insecticide.
- $ Transgenic varieties have good preventive control of bud/bollworm.
- $ Reduced human exposure to insecticide.
- $ Less environmental effect.
- $ Improve yield versus conventional varieties 10 to 20%.
- $ Better profit.
- $ Bt Cotton varieties for the Cotton growers from Chihuahua State is a good alternative for IPM versus bud/bollworm.

References

Obando-Rodriquez, A.J. et al. 1998. Confirm 2F and tracer as a useful alternative for IPM against bollworm, tobacco budworm and beet armyworm in cotton in Northern Mexico. Proc. Beltwide Cotton Conference. Pp. 1228-1230.

Capps, C.D. et al. 1998. Performance of selected Bollgard cotton varieties in Southeast Arkansas Proc. Beltwide Cotton Conference pp. 1246-1249.

Results

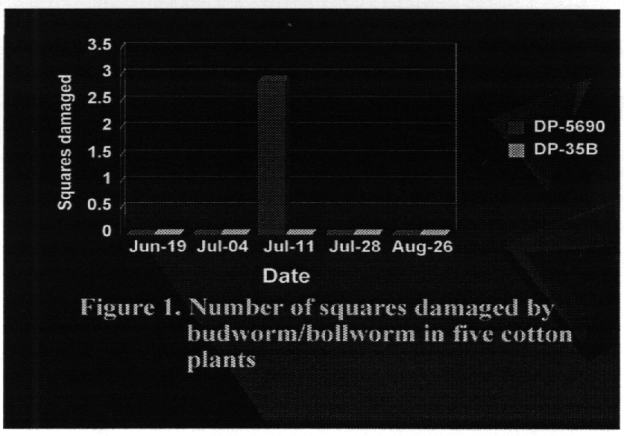

Figure 1. Number of squares damaged by budworm/bollworm in five cotton plants

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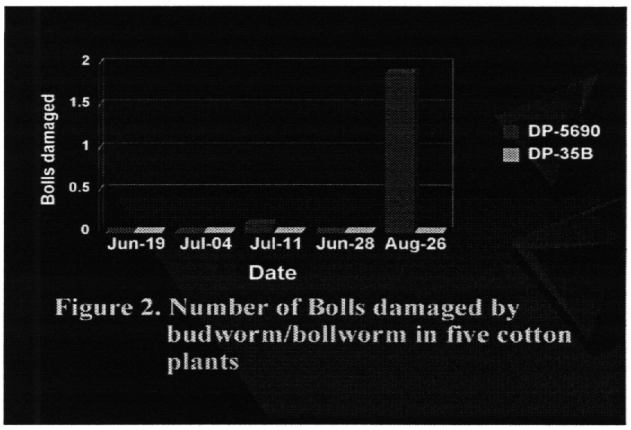

Figure 2. Number of Bolls damaged by budworm/bollworm in five cotton plants

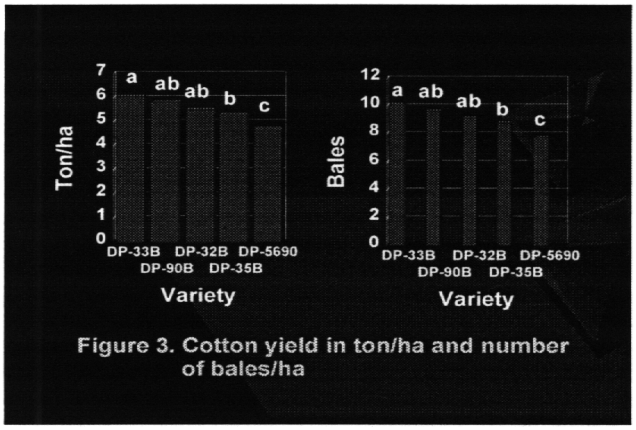

Figure 3. Cotton yield in ton/ha and number of bales/ha