

INVESTIGATIONS ON CULTURAL CONTROL OF THE PINK BOLLWORM

T.F. Watson, D.T. Langston, L.A. Crowder
E.B. Jackson, F.M. Carasso and B.W. Engroff

Objective: To develop ways of controlling the pink bollworm with reduced insecticide usage

Summary of Progress:

An experiment was conducted for the third consecutive year at the Yuma Experiment Farm to determine the effects of 4 irrigation cutoff dates, each with 3 levels of pink bollworm infestation, on cotton yields, quality, incidence of boll rot, and overwintering populations of pink bollworm. The irrigation cutoff dates varied slightly from year to year but in general were mid-July, early-August, third week of Aug., and early Sept. Pink bollworm control treatments were: untreated check; complete boll protection, i.e., treatments begun at first boll formation and continued until each respective irrigation treatment was defoliated; and, control initiated at 15% boll infestation.

Results of the growing season phase of this study indicated that an excessively longgrowing season is not necessary to produce maximum yields in the Yuma area. The first irrigation cutoff date (mid-July) was too early as significant yield losses occurred each year. However, no significant difference in yield was obtained among the last 3 cutoff dates in any of the 3 years. Each of the last 3 termination treatments resulted in slightly higher yields in one of the years.

Relative to pink bollworm infestation level, significant yield losses occurred each year in the untreated check. In all cases the complete-boll-protection treatment resulted in slightly greater yields than did the treatment initiated at 15% boll infestation, indicating that in the Yuma area the 15% boll infestation level is above the economic threshold.

The effect of growing season practices on subsequent spring moth emergence has been determined for 2 of the years and the third will be determined in the spring of 1974. In both years, moth emergence was relatively low from the first 2 cutoff dates but increased significantly when irrigation cutoff dates were delayed until the third week of August or first week of September.

When an analysis is completed, including economic factors such as number of insecticide applications and irrigations for the different treatments; grade and quality of cotton produced, yields, and overwintering pink bollworm populations, the practices necessary to produce optimum yields should be clearly indicated. This may or may not be the same as maximum yields but the indications from this study are that the two will be the same or nearly so.