

SAMPLING AND STATISTICAL INVESTIGATIONS

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Objectives:

To determine the methods to properly assess populations of cotton insects for purposes of biological and ecological control of injurious cotton insects.

Summary of Progress:

The heterogeneity of bollworm populations was investigated during 1967 in four irrigated cotton fields. Grid stratification slightly improved relative efficiency of population level estimates over simple random sampling, and stratum variability was significant for only 22 of the 124 samples. The heterogeneity was greater for samples of bollworm damaged fruiting forms than for larval samples.

Data pertaining to the sampling distributions of the various cotton pests and predators is under final analysis and will lead to improved sampling methods for these insects. Variability of cotton insect pests in regard to time and space is also under study.

Computer mapping may be used to expand data taken in grid configurations in the field by utilizing interpolation techniques. The expanded data concerned with various insect populations and ecological factors can be mapped in contour configurations by the computer, and the maps utilized to associate the insect populations with several ecological factors.