

POPULATION FLUCTUATION STUDY OF COTTON BOLL WORMS WITH LIGHT-TRAPS AT FAISALABAD, PAKISTAN

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ABSTRACT

The multiple and partial regression effects of environmental parameters was studied on the population fluctuation of cotton bollworms. The multiple regression of all the factors is highly significant with their continuation of 94.628 percent in case of spotted boll worms, but it was 98.037 percent in case of pink boll worm.

INTRODUCTION

Cotton is an important fibre crop and is grown on about 2 million hectares each year in Pakistan [3]. In Asia, Pakistan ranks 3rd in acreage and 9th in per acre lint yield which is 315 lbs. This lowest yield is due to the severe attack of a large number of insect pests, of which the cotton boll worms are the most serious. They cause heavy losses on cotton each year.

Several methods are used to estimate the population of boll worms in the field, but the light trap method is an easy and economical one. It is also well known that the seasonal abundance of insects is always dependent on environmental parameters.

The phototropic response of the pinkboll worm depended largely on temperature and the most favourable temperature for moths attraction was found to be 76-87°F [4]. The information obtained by light-trap collections of some Lepidopterous moths may be useful in giving an advance warning of their injurious infestation [5]. It was investigated from the study of light-trap that the pinkboll worm adults attained the peak abundance in August [2].

The temperature considerably effects the boll worms population in the field after the start of their activities on cotton [1].

The present studies were made to find out the effect of environmental parameters on the population of cotton boll worms.