Factors influencing infestation of sugarcane Early shoot borer *Chilo infuscatellus* Snellen

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ABSTRACT

Field experiments were conducted in the Agricultural Research Station, Perumallapalli, Chittoor district during 2002-2003 with a view to study the factors influencing incidence of early shoot borer in sugarcane i.e., time of planting, spacing adopted and ratoon crop. January planted crop recorded low cumulative incidence (34.73%) of early shoot-borer than February and March planted crop. Low incidence of the pest (23.79 and 18.23%) when wider spacings of 120 and 150 cm and high incidence (41.50 and 34.89%) when narrow spacings 60 and 90 were followed. Ratoon crop influenced the incidence of early shoot borer to a little extent, where it carries over pest incidence seasonally from one crop to the other.

Key words : Factors, Sugarcane, Early shoot borer *Chilo infuscatellus*

INTRODUCTION

Early shoot borer *Chilo infuscatellus* Snellen is a key pest of sugarcane. The pest infests rainfed sugarcane crop severely taking a toll of over 70 per cent shoots (Prasada Rao *et al.,* 1991) Time of planting, playing a vital role in reducing the incidence of early shoot borer (Murthy, 1953). Sugarcane planted during December to February escaped from severe early shoot borer incidence (Sithanantham *etal*. 1975) where as when planted during March to May suffered greater borer infestation (Thirumurgan, 2001). Narrow spacing (<90 cm) increased the early shoot borer damage than wider spacing (120 and 150 cm) (Avasthy and Varma, 1979). Ratoon crop also acted as the seasonal carrier of early shoot borer from one season to the other (Saikia and Roy, 1998). The present investigation was planned to study the influence of all these factors that influence the incidence of early shoot borer in the South zone of Andhra Pradesh.

MATERIALS AND METHODS

To study influence of time of planting on the incidence of early shoot borer, planting of sugarcane, variety Co 6907 was taken up in three different months, January, February and March 2003. Total number of tillers and number of dead hearts present in 9 m² area were counted for calculating the per cent incidence.

$$\text{Per cent incidence of early shoot borer} = \frac{\text{Number of deadhearts}}{\text{Total number of tillers}} \times 100$$

This data was taken from initial incidence of 30 DAP upto the peak incidence of the pest at 120 DAP. Dead hearts were pulled out immediately after every count so that the next formed dead hearts can be counted easily and cumulative per cent incidence was calculated by taking the progressive total number of dead hearts and tillers. Average of ten replications of 9 m² crop area was taken.

To study the influence of spacing on the incidence of early shoot borer, sugarcane variety 93V297 was planted at four different spacings i.e., 60, 90, 120 and 150 cms with 12, 8, 6 and 5 rows respectively in a plot of size 36 m² area. Per cent incidence of early shoot borer was documented at 30, 60, 90 and 120 DAP, their cumulative incidence was then calculated at 120 DAP. Average of ten replications of 9m² areas was taken.

With a view to study the influence of ratoon crop on the incidence of early shoot borer, per cent incidence of early shoot borer was noted in the ratoon crop of variety 93V297, plant crop (93V297) adjacent to ratoon crop and a plant crop (93V297) far away from ratoon crop. Data was taken in 9m² area with five replications at fortnight intervals from initiation of incidence to the end of incidence.

RESULTS AND DISCUSSION

Time of planting :

In all times of three planting, there was a significant difference in the per cent incidence of early shoot borer, when initial observations were made on 30 DAP, highest incidence of 13.28 per cent in March planted crop and lowest incidence of 5.18 per cent in January planted crop

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