

SUUCCESSION OF PESTS ASSOCIATED WITH SUGARCANE (*Saccharum officinarum*)

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ABSTRACT : Sugarcane is unquestionably the most important commercial crop produced in India on account of its ability to produce the much priced luxury; sugar. A survey conducted during 2008-2009 in the Tirhut region and finding experiment conducted in the randomized block design in the farm of dharharwa village 30 km north east from Muzaffarpur (District town) of Bihar, revealed at varying stages of crop growth period. Among these pests species viz. leaf hopper (*P. perpusilla* wlk), top borer (*E. despresselle* swinhoe), shoot borer (*C. infusatellus* snellen), top borer (*S. nivella* fabicius), white fly (*A. barodensis* maskell) and gurdaspur borer [*B. steniellus* (Hampson)] leaf hopper and root borer were considered as major pest while rest were found minor.

Keywords- Sugarcane, Succession, Pest complex.

INTRODUCTION : *Saccharum officinarum* is one of the most important crop of this region and have its best adaptation and very little growth period. This crop is heavily damaged by different pests. Insect pest complex are responsible for the retardation of quality and the quantity of cane.

A good pest management programme should be imposed and periodical review of the pest fauna region wise in order to ascertain and fix the priorities and to evolve effectiveness in a great variation of the cane crop in this region (Pradhan, 1983). With these objectives, the present investigation was undertaken to visualize the pest problems align with their occurrence and succession associated with sugarcane in the Muzaffarpur district.

MATERIAL AND METHODS:

A general survey of sugarcane field were started in Dharharwa village area including Tirhut region during 2008-2009 in the sugarcane season (March-October) and a spot experiments were also carried out during the same to find out the information on the pest complex and there succession in the different stages on sugarcane plants. In the growing buds during month of March and April taking random sized block design with four replications having the plot size 10m*19m except the pest control operation all the practices were applied for the betterment of the crop in the sample field. Absolute population was counted in the case of eggs, caterpillars, larvae, pupae and young (adult) and their populations were plot was counted. Number of total plants as well as damaged plants was counted too at the time of maturity of calculating the percentage plant damage on the basis of their number and extent of damage. The insect pests were categorized as major or minor.

RESULT AND DISCUSSION :

The sugarcane harbored as many as 6 insect pests of their different stages under the agro climatic conditions prevailing in Tirhut region. In general and around the Dharharwa village, Muzaffarpur district of these, leaf hopper (*Pyrilla perpusilla walker*) and root borer (*Emmalocera depressella swinhoe*) were categorized as major pests because their nymph and adults suck the cell sap of succulent leaves of sugar cane and these leaves turn into pale yellow and dried up and secrete honeydew which attracts the harmful fungi resulting in good growth of mould and hence the rate of photosynthesis retarded. Remaining pests have only host of their life cycle that is sugar cane plant and damage them in various ways and the quality of sugar is affected.

On the basis of above observation, the sugarcane plants attacked by all these pest and percent damage of the plant and its all stages were recorded. Almost similar results were obtained by Rajendra B. (1999), Ansari (1993), Bahadur (1963) and Brooks (1985) who recorded so many other insects pest Srivastava and Singh (1957) observed not only the behaviour of these pests but also the nature of selection of choice food.

It is now concluded that sugarcane is affected by so many pests out of which these 6 different stages in Tirhut region especially Dharharwa village are prominent. So many other activities shown by the pest in different stages and their effect to damage the sugarcane plants are present in the Table 1.

Table .1:

Common Name	Scientific Name	Life stage of Pest	Affected part of plants	Results
Sugarcane leaf hopper	<i>Pyrilla perpusilla walker</i>	Nymph and adult	Leaves	About 30% sucrose level reduced
Sugarcane root Borer	<i>Emmalocera depressella swinhoe</i>	Caterpillars	Stem below the soil surface	8% sucrose level reduces and cane production effected
Sugarcane shoot Borer	<i>Chilo infuscatellus snellen</i>	Caterpillars	Young shoot	By the formation of dead hearts damage the sugarcane
Sugarcane top Borer	<i>Scirpophage novella fabricus</i>	Caterpillar	Growing buds	Reduced the plant and effect the sugar quality
Sugarcane White fly	<i>Alerurolobus Barodensis</i> (Maskell)	Nymph	Suckin cell Sap of leaves	Maxumum reduction of sucrose

Gurdasper Borer	Bissetia Steniellus (Hampson)	Larva	Top part of the plant	25-80% destruction of cane plant
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