

Sucrose Loss in Sugarcane due to Rootstock Borer Infestation

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In Bangladesh, rootstock borer (*Emmalocera depressella*) is a major problem to sugar industry and this pest becomes increasingly a threat in different areas for plant and ratoon cane cultivation. Therefore an investigation was undertaken in North Regional Station, Thakurgaon to evaluate loss of recoverable sucrose due to rootstock borer infestation.

The percentage of recoverable sucrose was estimated once a week for three successive weeks starting from the first week of January, 1992. For this purpose, each healthy samples was made by 10 healthy plants selected randomly from the uprooted and split up plant (at or below the ground level) in the field. Here all the infested samples were free from other insect pests and diseases except rootstock borer. Four healthy and four infested samples were prepared every time and each samples was analysed for percent recovery of sucrose following Home's Dry Lead Method (Meade, 1963).

The percentage of recoverable sucrose of healthy and infested canes were analysed. Investigation showed that the mean percentage of recoverable sucrose of healthy and infested canes were 9.4 and 8.6 respectively, and therefore, a loss of 0.8 percent recoverable sucrose in the infested cane on the 7th January (Table 1). The above difference of recoverable sucrose loss was statistically significant. Similar analysis on the 14th January showed 9.2 percent recoverable sucrose in the healthy cane and 8.8 percent in infested ones, and the difference (0.4 percent loss of recoverable sucrose due to rootstock borer infestation) was statistically significant. On January 21, the mean recoverable sucrose loss was to the extent of 0.7 percent. The difference in percentage recoverable sucrose of healthy and the rootstock borer infested canes was significantly different.

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Table 1. Recoverable sucrose loss due to infestation of sugarcane by rootstock borer (January, 1992).

Date of analysis	Mean recoverable sucrose (%)		Recoverable sucrose loss (%)	Infestation (%)
	Healthy plant	Infested plant		
January 7	9.4	8.6	0.8*	86
January 14	9.2	8.8	0.4**	80
January 21	9.6	8.9	0.7*	82

* Significant difference at $P < 0.05$ by t-test.

**Highly significant difference at $P < 0.01$ by t-test.

The analysis of recoverable sucrose of healthy and infested cane on January 7, 14 and 21 showed significant difference in recoverable sucrose for healthy and infested cane and the difference ranged from 0.4 to 0.8 percent loss caused by the rootstock borer. Gupta (1959) observed a reduction of 0.3 percent in sucrose in rootstock borer infested canes as compared to healthy cane. Loss of sucrose also occurred due to infested of other borer species. Hill (1983) reported that for every 1 percent of internode bored, sugar losses amount to be 0.5 to 0.7 percent. All these works supported the results of the present work.

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