

## Short Communication

# Incidence of *Sesamia inferens* walk in sugarcane as internode borer in sugarcane at Hoshangabad, India

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The pink stem borer, *Sesamia inferens* is normally known as a minor borer pest of sugarcane. It infests the crop in a borer complex, with *Chilo infescatellus*, as early shoot borer in month of March to June. When another graminaceous crop, like wheat grown as companion crop, it attends pest status and some times the intensity of damage is so high that after harvest of wheat, about all sugarcane shoots get infested in the field (Avasthy and Tiwari, 1986).

Newly hatched larvae takes shelter in between stem and leaf sheath and mines /feed into epidermal layers of leaf-sheath. Later third instar larvae bore and enter in the middle of the stalk. Borer larvae have rarely been observed in grown-up canes (Gupta and Gupta, 1959).

An unusual incidence was observed i.e. time and damage behavior of *Sesamia* in 2004-05. Generally it appears on sugarcane crop as early shoot borer during March to June; but it has been observed infesting different sugarcane varieties from first week of August to third week of September as internode borer at Sugarcane Research Station, Powarkheda (M.P.). The present study was carried out to observe the nature of damage, seasonal incidence and losses in cane yield and brix. Data in respect of nature of damage was recorded from at random 10 samples consisting of 100 canes each and were categorised on the basis of damaging pattern. For seasonal incidence observations were recorded at weekly interval, while for assessment of losses the cane yield and brix were recorded from healthy and damaged canes at harvest.

The Co 86032 recorded the maximum infestation (19.0 %). Among the nineteen per cent bored canes, four types of damaging pattern were observed. First type-canes were infested at apical portion (12.5%), which resulted in apical growing bud destruction and no further growth takes place. Second, third and fourth type, was observed as internode borer and made one (4.0 %), two (1.8 %) and three entrance holes (0.7 %), respectively. In second, third and fourth types of bored canes, it was found that effect on growth was negligible, but buds germinated in standing cane.

Observations recorded on seasonal incidence

indicated that the per cent infestation ranged in between 0.3 to 8.3 per cent in different STD weeks. Increasing trend was observed up to 36th STD week (9th September, 8.3 %) i.e., the peak activity period after which it declined sharply in 37th STD week (2.0%) (Fig 1). Zafar and Chaudhry (1979) reported that in Faisalabad, Pakistan, *Sesamia inferens* occurred in peak in March and October on rice.

The meteorological data recorded at research station revealed that -

1. Heavy rains received in 25<sup>th</sup> to 28<sup>th</sup> STD weeks (458.30 mm), which was double than the average rains received during this spell (213.77 mm).
2. From 30<sup>th</sup> to 33<sup>rd</sup> STD weeks, rains received were only 227.40 mm which was about half as compared to the average rains received during this spell (437.71 mm).
3. During 34<sup>th</sup> to 36<sup>th</sup> weeks, received rains only 2.4 mm as against average rainfall of 187.67 mm.
4. From 28<sup>th</sup> to 37<sup>th</sup> STD weeks the relative humidity and maximum temperature remained more or less 90 per cent and 30°C, respectively.

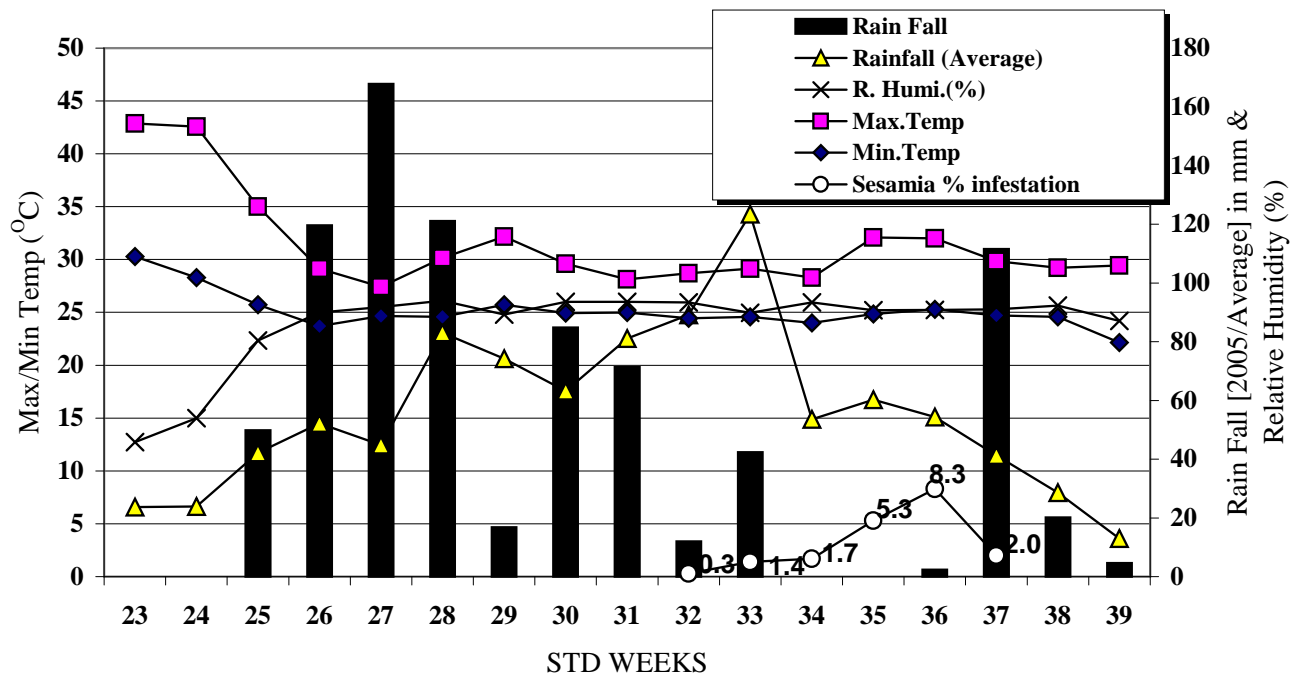
The heavy rains during 25<sup>th</sup> to 28<sup>th</sup> STD weeks followed by very less rains from 30<sup>th</sup> to 33<sup>rd</sup> STD weeks and negligible rains (drought) from 34<sup>th</sup> to 36<sup>th</sup> STD weeks with more or less 30°C maximum temperature and 90% per cent relative humidity. Variation in rainfall, temperature and relative humidity from normal may attributed to change in the time of incidence and the damage behavior of *Sesamia inferens*.

Table 1 : Reduction in Cane Weight and Brix (%) due to *Sesamia inferens* damage in sugarcane

S. No.	Particulars	Percent canes	Cane weight (g)	Brix (%)
1.	Healthy	81	15.15	18.73
2.	Damaged	19	646.71	11.90
3.	Reduction over healthy (%)		57.31	36.45

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Fig.1: Seasonal Incidence of *Sesamia inferens* on sugarcane and Graphical Presentation of Meteorological Data -Kharif, 2005 : Hoshangabad (M. P.)



Our observations are in confirmation to Avasthy *et al.* (1969) reported that drought conditions and low rainfall enable shoot borer to continue as internode borer and also to Bhardwaj *et al.* (1981) who observed that under field conditions when once the borer *Chilo auricilius* Ddgn population sufficiently built-up, the temperature and relative humidity do not seem to play a dominant role, as they have an influencing role in the initial population built-up.

Data presented in Table1, revealed that difference in cane weight and brick percent were significant among the damage and healthy canes and the percent reduction was estimated to be 57.31 and 36.45 per cent, respectively. Gupta and Gupta (1959) also reported that *Sesamia inferens* destroyed 20 and 10 per cent shoots, respectively in ratoon and plant sugarcane crop during December to April every year. Suraj (2001) also reported that another species i.e., *Sesamia cretica* bored nodes and internode of sugarcane up to 20.7 and 11.2 per cent canes of CP57 – 614 and NCo 310 at Iran, and the estimated sugar losses were 0.11 t/ha for every 1% bored and rotten canes.

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