Indian Journal of Applied Entomology **23**(2) : 156-157 (2009)

INSECT PEST SCENARIO IN DIFFERENT SPECIALTY CORN IN SOUTH EAST RAJASTHAN

Maize is an important cereal which plays vital role in the food sustainability of southern Rajasthan. It is cultivated for animal feed, fodder and industrial purposes. The agro climatic condition and rainfall pattern also favours in wide spread adoption of maize for cultivation. Different type of speciality corn *viz.,* quality protein maize (Q.P.M.), baby corn and sweet corn are getting popularity among farming community. But, potential yield of maize cannot be realized due to economic damage inflicted by large number of insect pests from germination to harvest. Among insect pests, *Chilo partellus* Swinhoe, *Hieroglyphus nigrorepletus* (Bol.), *Rophalosiphum maidis* (Fitch), *Myllocerus* sp., *Meliodea* sp. and *Mylabris phalearata* are common. It was therefore, planned to study the insect pest scenario in different special type of corn for formulation of pest management strategies.

The experiment was conducted during *kharif* 2007 at Agronomy farm of Rajasthan College of Agriculture, Udaipur in randomized block design with three replications. Different types of corn *viz*., QPM, baby corn and sweet corn was sown on 30th June at 60 × 25, 60 × 15 and 60 × 25 cm row to row and plant to plant distance, respectively. The variety HQPM1 was used for QPM and baby corn whereas Madhuri was sown for sweet corn. The baby corn was harvested in the third week of August but trial continued for recording the observation on insect pests, while sweet corn trial continued up to first week of September for getting green cobs. The observations on incidence of insect pests *viz.,* maize stem borer, grey weevil (*Myllocerus* sp.), grasshopper (*Hieroglyphus nigrorepletus*), aphid (*Rophalosiphum maidis* Fitch) and pollen beetle (*Meliodea* sp. and *Mylabris phalearata*) on different specialty corn were recorded weekly from 15th July upto maturity of the crops. Ten plants per plot were selected and tagged with red tape for getting the per plant population of test insect. The per cent infestation of maize stem borer and aphid was observed while grasshopper, grey weevil and pollen beetle population was recorded per plant.

It is apparent from the Table-1 that stem borer population in specialty corn varied from 3.5 to 11.5 per cent. The incidence of stem borer started from 15th July in each type of corn with 3.5 per cent infestation in QPM and 4.3 and 5.9 per cent in baby corn and sweet corn. Sweet corn was found more susceptible to stem borer. The second week of August was found most congenial period for stem borer as its population was maximum, 8.9; 10.9 and 12.5 in QPM, baby corn and sweet corn, respectively. The incidence of grasshopper started in the first week of August and remained up to 4th week of August. It was also clear from the data that almost similar but, very less population of grasshopper, 0.05 to 1.0 per plant was recorded. The aphid infestation in sweet corn varied from 3.9 to 6.3 per cent followed by 2.4 to 5.5 per cent in baby corn. The QPM was found less preferred by the aphids with infestation 2.1 to 4.9 per cent.

Grey weevil population started damaging the crop from third week of July and continued up to third week of

Table 1: Investigation on insect pests scenario in different specialty corn

Date of observations	Maize stem borer (Percent infestation)			Gross hopper (No./plant)			Aphids (Percent infestation)			Grey weevil (No./plant)			Pollen beetle (No./plant)		
	QPM	Baby corn	Sweet corn	QPM	Baby corn	Sweet corn	QPM	Baby corn	Sweet corn	QPM	Baby corn	Sweet corn	1	2	3
July 15th	3.5	4.3	5.9	-	-	-	-	-	-	-	-	-	-	-	-
July 22nd	7.5	8.9	9.5	-	-	-	-	-	-	0.5	0.4	0.7	-	-	-
July 29th	8.5	10.5	11.0	-	-	-	-	-	-	3.0	4.5	4.7	-	-	-
August 05th	8.5	9.9	10.5	0.05	0.75	-	2.1	2.4	3.9	3.0	4.7	4.9	-	-	-
August 12th	8.9	10.9	12.5	0.1	0.1	0.2	3.3	3.5	4.7	2.0	2.5	3.0	-	-	-
August 19th	8.4	-	10.75	0.75	1.0	1.0	3.9	4.0	5.7	1.5	1.0	1.0	-	-	-
August 26th	8.5	-	10.75	0.5	0.75	0.5	4.3	4.0	6.9	-	-	1.0	2	-	4
September 02nd	8.9	-	11.5	-	-	-	4.9	4.7	7.2	-	-	-	5	2	7
September 09th	9.5	-	-	-	-	-	-	5.5	6.3	-	-	-	1	2	2
September 16th	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

August in QPM and baby corn and up to fourth week of August in sweet corn. The maximum population of grey weevils, (4.9 per plant) during first week of August was found in sweet corn followed by baby corn and QPM. The data recorded on pollen beetle showed that the appearance of pollen beetle was started in last week of August but sweet corn was preferred with maximum population, (7 per plant) followed by 5 in QPM in first week of September.

The data thus, recorded on the insect pest scenario in different type of corn clearly showed that sweet corn is most susceptible to almost all insects while no difference was found in grasshopper infestation. The preference of sweet corn to different insect pests may be due to high sugar concentration. Similar results were reported by many researchers. The work carried out by Khurana and Verma, (1983); Kalode and Pant (1967) and Allborn *et al.* (1992) are in close agreement as they have reported differential antibiosis in maize due to effect of various chemical constitutents. Further, they have also established that the concentration of sugar and amino acid was higher in susceptible germplasms as compared to resistant one.

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