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Population Build up of Leafminer, *Aproaerema modicella* Deventer (Gelechiidae : Lepidoptera) in Popular Varieties of Groundnut

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ABSTRACT

Incidence of leafminer, *Aproaerema modicella* Deventer was studied on 15 popular varieties (grown in different parts of the country) in the agroclimatic condition of Junagadh in 1995 and 1996. Results indicated that spreading variety GG 13 registered significantly lowest leafminer larvae per plant, whereas Girnar 1 showed maximum larvae per plant. In general, all spreading and semi-spreading varieties showed lower incidence of leafminer as compared to erect varieties.

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INTRODUCTION

Groundnut is the important cash crop of Saurashtra region of Gujarat State. Many insect pests cause damage to groundnut, of which leafminer, *Aproaerema modicella* Deventer is one of the most serious pest in Saurashtra. It infests the crop from germination to harvest. The avoidable crop loss due to this pest was estimated to the tune of 51.06 per cent in *kharif* season on bunch groundnut in Gujarat (Vyas, 1989). The resistant or less susceptible variety plays an important role in formulating pest management programme. With this objective, present studies were conducted to identify least susceptible variety against leafminer by recording population building up of leafminer on different popular varieties of groundnut.

MATERIALS AND METHODS

In two years field experiments, conducted in *kharif* 1995 and 1996 at Oilseed Research Station, Gujarat Agricultural University, Junagadh. Fifteen popular varieties (different habit group grown in different parts of the country) were sown for the study of incidence of leafminer in the agro-climatic condition prevailing at Junagadh. Each variety was grown in a plot size of 4.0 x 6. m². The details regarding varieties and their habit group are as follows :

Sr. No.	*Variety*	*Habit group*	*Botanical group*
1.	GG 2	Erect (bunch)	Spanish
2.	GG 3	"	"
3.	GG 4	"	"
4.	JL 24	"	"
5.	J 11	"	"
6.	TG 26	"	"
7.	ICGS 37	"	"

1.	2.	3.	4.
8.	Girnar 1	Erect (bunch)	Spanish
9.	GG 20	Semi-speading	Virginia
10.	TMV 10	" "	"
11.	Kadiri 3	" "	"
12.	GG 11	Spreading (runner)	"
13.	GG 12	" "	"
14.	GG 13	" "	"
15.	Somnath	" "	"

All the recommended agronomic practices were adopted. The plot was kept unsprayed throughout the season. Each plot was divided into four quadrates. Ten plants from each quadrates were selected for observing leafminer population. The leafminer larvae per plant was recorded at weekly interval till harvest. Mean pest incidence was worked out and the data thus obtained were subjected to statistical analysis for assessing the relative incidence in groundnut varieties.

RESULTS AND DISCUSSION

The results (Table 1) revealed that leafminer population was higher during the year 1995 as compared to 1996 in different varieties tested. Pooled results of two *kharif* seasons indicated that the spreading variety GG 13 registered singificantly lowest leafminer larvae per plant (3.50) and was at par with GG 20 (3.60). The variety Girnar 1 was found to be the most susceptible as it carried 5.29 larvae per plant and was at par with ICGS 37 (5.24), TG 26 (5.20) and JL 24

TABLE 1

Mean number of *A. modicella* larvae per plant in different groundnut varieties.

Sr. No.	*Variety*	*1995*		*1996*		*Pooled Mean*	
1.	GG 2	2.34*	(5.48)	1.95	(3.80)	2.14	(4.58)
2.	GG 3	2.29	(5.24)	1.86	(3.46)	2.08	(4.33)
3.	GG 4	2.39	(5.71)	1.99	(3.96)	2.19	(4.80)
4.	JL 24	2.46	(6.05)	2.06	(4.24)	2.26	(5.11)
5.	J 11	2.29	(5.24)	1.87	(3.50)	2.08	(4.33)
6.	TG 26	2.47	(6.10)	2.10	(4.41)	2.28	(5.20)
7.	ICGS 37	2.47	(6.10)	2.11	(4.45)	2.29	(5.24)
8.	Girnar 1	2.48	(6.15)	2.12	(4.49)	2.30	(5.29)
9.	GG 20	2.11	(4.45)	1.68	(2.82)	1.90	(3.60)
10.	TMV 10	2.21	(4.88)	1.76	(3.10)	1.98	(3.92)
11.	Kadiri 3	2.22	(4.93)	1.77	(3.13)	1.99	(3.96)
12.	GG 11	2.20	(4.84)	1.74	(3.03)	1.97	(3.88)
13.	GG 12	2.20	(4.84)	1.75	(3.06)	1.98	(3.92)
14.	GG 13	2.10	(4.41)	1.64	(2.69)	1.87	(3.50)
15.	Somnath	2.23	(4.97)	1.78	(3.17)	2.00	(4.00)
	S. Em.	0.01		0.01		0.02	
	C. D. at 5%	0.02		0.03		0.05	
	C. V. %	2.62		3.22		1.92	

* $\sqrt{}$ Transformed values.
Figures in the parenthesis are retransformed values.

(5.11). The varieties viz., GG 11, GG 12, TMV 10, Kadiri 3, Somnath, GG 3, J 11, GG 2 and GG 4 were found moderately susceptible as they showed larvae population of 3.88 to 4.80 per plant.

All spreading and semi-spreading varieties showed lower incidence of leafminer as compared to erect (bunch) varieties. Similar observations were also reported by Motka *et al.* (1985), Ghule *et al.* (1988) and Mahadevan *et al.* (1988).

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