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Effect of Moon Light on Trap Catches of Rice Leaf Folder *Cnaphalocrocis medinalis* (Gn.)

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The brightness of the moon associated with the daily change in the degree of moon phase in a lunar cycle and its interference in phototactic response affect the size of light trap catch remarkably. Vaishampayan and Verma (1982) found that light trap catch of *Heliothis armigera* (Hb.) were consistently very low of full moon nights. Since rice leaf folder *Cnaphalocrocis medinalis* (Gn.) is one of the major insect pests attacking rice in Gujarat and is photopositive in nature, the effect of moon light on its light trap catches was examined at the National Agricultural Research Project Farm, GAU, Navsari during thirteen lunar periods between September, 1985 to September, 1986.

A Chinsura light trap fitted with a 200 W fluorescent lamp was used. The data on average number of moths trapped from three days before to three days after the new moon and full moon were analyzed.

TABLE 1

Relative response of *Cnaphalocrocis medinalis* (Guenee) moths to light trap on different phases of moon.

Month	*Number of moths trapped*[a]	
	New moon	*Full moon*
Sept. '85	5.20[b]	1.73
	(26)	(02)
Oct.	1.41	1.00
	(01)	(00)
Nov.	1.00	1.00
	(00)	(00)
Dec.	1.00	1.00
	(00)	(00)
Jan.'86	1.00	1.00
	(00)	(00)
Feb.	1.00	1.00
	(00)	(00)
Mar.	1.73	1.41
	(02)	(01)

1.	2.	3.
Apr.	2.00 (03)	1.41 (01)
May	5.74 (32)	3.61 (12)
Jun.	2.65 (06)	2.00 (03)
July	3.46 (11)	2.83 (07)
Aug.	4.90 (23)	2.65 (06)
Sept.	4.58 (20)	2.00 (03)

F = 9.40**

S. Em. ± = 0.231

C. D. at 5% = 0.71

[a] mean of 7 day catch, b $\sqrt{x}+1$ values,

** Significant at 1% level,

Figures in parantheses are retransformed values.

The results revealed a significant effect of moon phases on light trap catches of rice leaf folder. Consistently higher catches were obtained during the new moon nights. This is in concurrence with Parasuraman and Jayaraj (1983) who obtained higher light trap catches of *Spodoptera litura* (F.) moths on and around new moon nights. The higher catches near new moon reflect a genuine increase in flight activity during this moon phase because light trap was most effective at that time. The response of moths to light trap was suppressed on full moon nights due to brightness of moon light confirming the findings of Vaishampayan and Verma (1982) who had reported similar response of *Heliothis armigera* (Hb.) moths to light trap on full moon nights. Bowden and Morris (1975) also obtained smaller light trap catches of *Spodoptera exempa* (Wlk.) moths around the full moon than other periods of lunar cycle. Dina Nath (1923), Williams (1936) and Agee *et al.* (1972) reported that the greatest response of insects to light trap was obtained during new moon period and the lowest during the full moon period. Thus, the present findings are also in confirmation with the same.

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