

**Influence of Levels of Nitrogen
and Rice Varieties on the Incidence
of Rice Leaf Folder *Cnaphalocrosis
medinalis* Guenee**

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Cnaphalocrosis medinalis Guenee was recently recorded as the most destructive pest of rice in Gujarat as reported by Upadhyay *et al* (1975). Effect of different levels of nitrogen and high nitrogen responsive cultivars of rice on the incidence of rice leaf folder, *Cnaphalocrosis medinalis* Guenee, has been reported by Subbaih and Morachan (1974), Michael and Morachan, (1973) and Chandragiri *et al*, (1974). A field trial was therefore conducted at main Rice Research Station, Nawagam during *kharif* 1971 to assess the incidence of rice leaf folder in relation to graded levels of nitrogen as top dressing on thirteen high yielding released and pre released rice varieties, having different maturity periods. Seven early type and six mid-late type varieties with five levels of nitrogen *viz.* 0, 50, 100, 150, and 200 kg/ha. were included in a split plot design with four replications with a common local dose of 80 kg. P_2O_5 /ha and 50 kg K_2O /ha. applied before transplanting. The spacing kept was 10 cm x 20 cm

with 2 seedlings per hill. Half the quantity of nitrogen in the form of ammonium sulphate was applied at the time of transplanting and the remaining quantity was applied in two splits—first at the time of tillering and second at the panicle initiation stage. The incidence of pest was recorded at the peak period during the month of October by counting the total number of leaves and number of infested leaves on each of the ten plants selected at random from each plot and working out the percentage of incidence. The results of the incidence of leaf folder with reference to different levels of nitrogen and varieties are given in Table 1.

The data in Table 1 indicates that the application of various levels of nitrogen significantly influenced the incidence of rice leaf folder, in different cultivars. Among the rice varieties, Bala, CR-44-36 and Pusa-2-21 under early maturing group and IR 22, under mid-late maturing group had the least incidence of leaf folder. IR 20 and Jaya reported to be tolerant by Subbaih and Morachan (1974), did not show any degree of tolerance in the present finding. The incidence of leaf folder, correlated positively with the levels of nitrogen ($r=+0.976$). With the increase in nitrogen doses, the percentage of incidence of the leaf folder increased significantly in all va-

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TABLE 1

Effect of different levels of nitrogen and different cultivars of rice on the occurrence of *Gnaphalocrosis medinalis* Gunenee.

Nitrogen kg/ha	Per cent Incidence at different level of N					Mean
Varieties	0	50	100	150	200	
A. Early maturing:						
Bala	1.2 (6.35)	3.5 (10.67)	12.6 (20.78)	14.5 (22.34)	18.3 (25.32)	10.1 (17.1)
CR 44-36	4.0 (11.50)	7.2 (15.55)	8.2 (16.54)	21.0 (20.12)	21.3 (27.47)	10.5 (18.2)
Pusa-2-21	1.8 (7.46)	9.8 (13.94)	11.7 (19.97)	13.6 (24.09)	17.1 (24.41)	10.8 (18.5)
Ratna	3.0 (9.98)	7.9 (16.29)	10.8 (19.70)	22.0 (27.91)	23.2 (28.75)	13.4 (20.5)
CR 44-11	2.0 (7.94)	5.0 (12.88)	9.1 (17.54)	25.3 (30.12)	30.6 (33.59)	14.4 (20.5)
Krishna	4.0 (11.46)	7.6 (15.99)	14.9 (22.70)	22.1 (27.94)	42.3 (40.57)	18.2 (23.7)
93-4 (Local)	1.5 (7.04)	9.8 (18.18)	23.7 (29.13)	34.3 (35.83)	37.7 (37.88)	21.4 (25.6)
B. Mid late						
IR-22	3.2 (9.29)	7.4 (14.67)	14.0 (21.32)	20.7 (26.55)	26.7 (30.58)	14.4 (20.5)
Jaya	7.5 (15.36)	12.4 (20.36)	18.2 (25.02)	24.4 (29.46)	40.6 (39.48)	20.6 (26.6)
Vijya	4.5 (12.11)	14.5 (22.21)	18.3 (25.06)	31.1 (33.83)	37.2 (37.52)	21.1 (26.11)
IR-20	2.8 (9.20)	12.2 (19.91)	22.1 (27.82)	31.4 (34.05)	37.4 (37.66)	21.1 (25.7)
IET-1039	7.2 (15.36)	11.4 (19.58)	24.1 (29.21)	33.2 (35.11)	56.2 (49.67)	26.4 (29.8)
42-2(Local)	8.3 (16.57)	12.1 (22.54)	20.5 (30.54)	30.5 (40.29)	48.0 (50.76)	22.3 (32.1)
Grand mean	4.3 (10.74)	9.5 (17.14)	16.5 (23.49)	25.1 (29.82)	34.5 (35.05)	17.9 (23.4)

F² Test

S. Em.

C.D. @5%

Nitrogen levels

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1.259

2.590

Varieties

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0.953

1.96

rieties, which is in agreement with the findings of Subbaih and Morachan (1974), Michael and Morachan (1973) as well as Chandragiri *et al* (1974).

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