

predator *Orius tantillus* was found to suck the body fluids of adult midges. The black ant *Camponotus compressus* was found to capture the adults while ovipositing and consume a large number of them.

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Role of Nitrogen on the Incidence of Ergot Disease of Pearl-Millet (*Pennisetum typhoides* [Burm. f.] Stapf and Hubb.)

Ergot disease caused by *Claviceps microcephala* (Wallr.) Tul. is one of the major diseases of pearl-millet (*Pennisetum typhoides* [Burm. f.] Stapf and Hubb.). This disease not only affects the yield, but also produces ergots, poisonous to both live-stock and human beings. The present study reports the influence of different levels of nitrogenous fertilizer on the occurrence of ergot disease on different hybrid varieties of pearl millet.

An experiment was conducted under field conditions with six levels

of nitrogen viz. 0, 40, 80, 120, 160 and 200 kg N per ha in the form of Urea and three hybrid varieties viz. HB. 3, J. 934 and J. 1270. The randomized block design was adopted with three replications on plots of 3.0 m × 2.7 m size. Urea was applied at equal split applications one at the time of sowing and the other four weeks after sowing. No manure either in the form of organic or inorganic was applied except the above scheduled doses of N. A spacing of 45cm × 15cm was adopted and one plant per hole

was maintained. The intensity of the disease on the earheads was rated prior to harvest by using a grade chart denoting '0' for no infection and '4' for very severe infection. The disease index was transformed to percentage of disease intensity.

The disease incidence data under different levels of nitrogen and varieties are given in Table 1. Summary of

results on the mean percentage of disease incidence is given in Table 2. The disease incidence increased with increase in the levels of N and where N was applied at higher levels (160 and 200 kg/ha) the disease incidence clearly increased compared with other treatments in all the three varieties. Similar findings are reported for other diseases in pearl millet (Kandasamy *et al.* 1971 and Sivaprakasam *et al.* 1971).

TABLE 1. Influence of nitrogen on the incidence of ergot disease in different varieties of pearl millet

Nitrogen levels (kg N/ha)	Varieties		
	HB. 3	J. 934	J. 1270
0	32.3	38.7	38.8
40	32.5	38.8	40.0
80	32.6	39.2	41.3
120	34.5	42.4	41.8
160	35.3	43.8	42.1
200	41.3	44.0	43.0

TABLE 2. Summary of results on the mean disease incidence

Nitrogen levels (kg N/ha)	Mean disease incidence	Varieties	Mean disease incidence
0	36.6	HB. 3	34.8
40	37.1	J. 934	41.5
80	37.7	J. 1270	41.5
120	39.6		
160	40.4		
200	42.4		

Comparison of significant effects C D (P=0.05)

(i) Between varieties 2.3

(ii) Between nitrogen levels 3.7

(iii) Between varieties and nitrogen levels. Not significant conclusion :

(i) Between varieties 1, 2, 3

(ii) Between nitrogen levels 0, 40, 80, 120, 160, 200

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Estimates of Genetic and Environmental Variability in Lentil (*Lens esculenta* Moech)

The efficiency of selection depends mainly upon the extent of variability present in a population. The phenotypic or observed variability consists of genetic and environmental variations. The genetic or heritable portion of variation can be estimated with the help of genotypic coefficient or variation, heritability and genetic advance. The present investigation was undertaken to work out the estimates of genetic and environmental variability in lentil.

The experiment was laid out with thirty diverse strains of lentil, in a randomised block design with four replications during *rabi* 1972—'73. Each plot consisted of six rows, each of 5 metre length, spaced at 25 cm.

At maturity, observations were recorded for five traits viz., number of seeds per pod, test weight and grain yield per plant on five plants in each plot.

The genetic and environmental coefficients of variation, heritability and expected genetic advance were calculated according to the procedure adopted by Burton (1952), Hansen *et al.* (1956) and Jahnson *et al.* (1958) respectively.

The results of variability, heritability and expected genetic advance are being discussed below: 1. *variability*: Range, mean and standard error of mean are presented in Table 1. The characters like primary branches, test weight and grain yield per plant