Seasonal incidence of defoliators in urd bean (Vigna mungo L. Hepper) and their correlation with meteorological parameters

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SUMMARY
A total of sixteen insect-pests were recorded on Vigna mungo at different stages of crops growth during Kharif 1997 and 1998. Out of these, six defoliators viz., Atractomorpha sp, Epilachna vigintioctopunctata, Monolipta signata, Myllocerus sp., Spilarctia obliqua and Spodoptera litura, were observed to infest urd bean. The populations of grass hopper, epilachna beetle, leaf webber, were negatively correlated with minimum and maximum temperature and positively correlated with relative humidity and rainfall during both the years.

MATERIALS AND METHODS
A field experiment was conducted at Student’s Instructional Farm of N.D. University of Agriculture Science, Kumarganj, Faizabad (U.P.) during Kharif 1997 and 1998. The urd bean variety PU-19 was sown in 3rd week of August during both the years. The experiment was layout in RBD having 6x5m² with three replications, 45x25cm distance between row to row. Recommended agronomical practices were adopted to raise a good crop. Meteorological data were collected from the Department of Meteorology of this University. Observations on damage caused by defoliators were recorded on 10 randomly selected plants, at weekly interval from germination to harvesting stage of the crop. Defoliators were recorded by number of larvae per plant except grasshopper in which nymphs and adults were counted. Adult population of defoliators viz., beetles and weevils were recorded on leaves and branch of each plant.

RESULTS AND DISCUSSION

Data of Table 1, 2 show the peak population of grass hopper, epilachna beetle, leaf webber, grey weevil, Bihar hairy caterpillar and tobacco caterpillar were found 39 standard weeks with mean 3.00, 2.13, 1.05, 1.16, 3.50 and 2.45 population per plant during Kharif 1997 while during Kharif 1998 the peak population was found 40 standard week for grass hopper, epilachna beetle, leaf webber, grey weevil with mean 3.10, 0.83, 2.47, 1.42 and 41. In the similar finding Monobrullah et al. (2007) reported that Spodoptera litura infestation was from vegetative to crop maturity stage of the crop. Table 3 shows that the population of Atractomorpha sp. was significant negatively correlated with minimum temperature (-0.942), relative humidity (-0.874) during Kharif 1997 while also significant negatively correlated with
minimum temperature (-0.776) and R.H. (-0.809). Kumar et al. (2007) reported that the population of grass hopper was positively correlated with maximum temperature and rainfall. The population of *Mylocerus* sp. was significant positively correlated with maximum temperature (0.727) during Kharif 1998. The population of *Spilarctia obliqua* was significantly negatively correlated with relative humidity (0.773) during Kharif 1997. Singh and Singh (1993) had also reported that the increase in *Spilarctia obliqua* population was positively correlated with temperature and negatively with relative humidity.

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