Influence of Intercropping on Population Build Up of Insect Pests of Groundnut and their Natural Enemies

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Name of Student
R. A. Sheraslya

Major Guide
P. G. Butani

Investigation was carried out on the influence of intercropping on population build up of insect pests of groundnut and their natural enemies in popular varieties and crop loss estimation during *kharif*-1995 and summer-1996 at Gujarat Agricultural University, Junagadh.

Result revealed that when groundnut was intercropped with maize, reduced the incidence of jassid (*Empoasca kerri* Pruthi), thrips (*Caliothrips indicus* Bagnall, *Frankliniella schultzei* Trybom, *Scirtothrips dorsalis* Hood) and leafminer (*Aproaerema modicella* Deventer)whereas, other intercrops viz., pigeonpea, greengram and castor provided better conductive conditions which increased the jassids and thrips population. The intercropping of groundnut with pigeonpea, greengram and soybean also enhanced the leafminer infestation.

The influence of intercropping on natural enemy complex indicated that the population of coccinellids was higher on groundnut with maize, greengram and soybean intercrops. The predatory mite (*Balaustium* sp.) was recorded as a predator of jassids and thrips on groundnut for the first time in Gujarat. Population build up of *Chrysopa* spp. was observed as higher with maize and soybean intercrops.

The maximum pod equivalent yield (1336.37 kg/ha) and higher gross economic return (Rs. 3474.56 kg/ha) were obtained with groundnut + pigeonpea combination.

Population dynamics of key pests indicated that the activity of jassid and thrips was higher in the month of September and March during *kharif* and summer, respectively. Partial regression analysis indicated that increase in one km/hr of wind speed resulted in decrease of 0.964 jassid per plant during kharif-1995. In summer, increase in 1ºC of minimum temperature resulted in increase in jassid population by 0.759 per plant and an increase of one per cent relative humidity decreased 0.281 jassid per plant.

In case of thrips, the regression studies indicated that an increase at 1ºC of maximum temperature resulted in decrease of thrips population by 0.981 per plant during kharif 1996. An increase in 1ºC of minimum temperature resulted in increase of 0.569 thrips per plant in summer, whereas increase in one per cent relative humidity decreased 0.150 thrips per plant.

Regression analysis of population of leaf miner indicated that leafminer increased by 2.876 larvae per plant with an increase of 1ºC minimum temperature during kharif-1996. But increase in one per cent relative humidity reduced 0.524 larva per plant. In summer, an increase in one per cent relative humidity also resulted in decrease by leafminer by 0.141 larva per plant.

The avoidable losses in groundnut pods were estimated to the tune of 39.31 and 41.79 per cent during kharif and summer season, respectively. High incidence of insect pests also caused 43.54 and 41.10 per cent losses in fodder yield during *kharif* and summer season, respectively.

Fifteen popular groundnut varieties grown for the study on incidence of key pests, indicated that GG-3 spanish bunch variety carried significantly lower population of jassid and thrips, whereas, variety GG-13 harboured lesser number of leafminer larvae. The varieties viz., Somnath and Kadiri-3 carried higher numbers of jassid and thrips.

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