P.02 - Effect of temperature and relative humidity on population dynamics of sucking insect pests of cotton (Gossypium hirsutum L.)

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Gossypium hirsutum L. was studied with the help of Cotton ecological system analysis (CESA) to discover and enumerate the effect of biotic factors on the population of insect pests of cotton. The trial was laid out during cotton growing season of 2006-07 in a Farmer Field School “Mahni Sial” in District Khanewal, Pakistan under the Community integrated pest management Project. The sucking pests observed in unsprayed conditions were whitefly *(Bemesia tabaci*), Thrips (*Thrips tabac*i) and Jassid (*Arrasca devastans*). Cotton ecosystem analysis showed that the major attack of sucking insect pests of cotton was during the vegetative stage of cotton. The peak population of whitefly was recorded on 3rd CESA i.e. 1st week of July (6.66 per leaf) while peak population of Thrips was also found on 3rd CESA i.e. 1st week of July (7.5 per leaf). The period of abundance of Jassid was observed on 4th CESA i.e. 2nd week of July. Simple correlation analysis showed that temperature had a positive effect on the population of sucking insect pests i.e. the correlation of temperature with whitefly 0.564898, Thrips 0.448827 and Jassid was 0.720352. Relative humidity was negatively correlated with these insect pests i.e. the correlation of humidity with whitefly -0.16244, Thrips -0.0356 and Jassid -0.61881. Results revealed that temperature had significant positive correlation with whitefly and jassid while humidity had non-significant negative correlation with sucking insect pests. It was observed that the maximum population of sucking insects was present at the vegetative stage due to the succulent nature of the plant due to the abundance of chlorophyll so proper insect management is suggested at the vegetative stage.