The whitefly population initiated from the 3rd week of August with 0.28 whitefly/3 leaves/plant. The population of the pest increased gradually from the 3rd to 11th week after sowing and reached the peak population (9.48 whitefly/3 leaves/plant) at 3rd week of October and exhibited significant positive correlation with bright sunshine hours whereas, significant negative correlation with wind velocity.

The aphid activity was commenced from the 1st of September (0.44 aphid/3 leaves/plant) and remained active throughout the crop period. The population increased gradually and reached the peak level of 7.28 aphids/3 leaves/plant during 4th week of October. Aphid exhibited positive correlation with bright sunshine hours and maximum temperature whereas, significant negative correlations with wind velocity, morning and evening relative humidity.

The jassid population appeared from the 3rd week of August (0.36 jassid/3 leaves/plant) and remained active throughout the crop period. The pest population increased gradually and reached the peak level of 9.48 jassid/3 leaves/plant during the 2nd week of October. Jassid exhibited significant positive correlation with bright sun shine while, highly significant negative correlations with wind velocity.
Abstract

The population of thrips appeared from the 4th week of September (0.44 thrips/3 leaves/plant) and remained active throughout the flowering period. The pest population increased gradually and reached a peak level of 10.68 thrips/3 leaves/plant during the 1st week of November. Thrips exhibited highly significant positive correlation with maximum temperature and bright sunshine hours whereas, highly negative significant correlations with minimum temperature, morning and evening relative humidity and wind velocity.

Significantly higher yield of 15278 kg/ha was recorded from plots protected against the sucking pests of tomato while yield of 11620 kg/ha was recorded from the unprotected plots. The increase in yield in protected plots over unprotected plots was found to be 3657 kg/ha. This showed 31.47 per cent increase in yield and 23.93 per cent avoidable loss.

The results from the three sprays on whitefly have revealed that imidacloprid 0.005 per cent, difenthiuron 0.05 per cent, acetamiprid 0.008 per cent and thiacloprid 0.024 per cent were found to be the most effective insecticides. The results of relative efficacy of nine different insecticides against aphid have revealed that flonicamid 0.015 per cent, imidacloprid 0.005 per cent, clothianidin 0.025 per cent and dimethoate 0.03 per cent gave very good results against aphid.

The results of relative efficacy of different insecticides against jassid have revealed that flonicamid 0.015 per cent, imidacloprid 0.005 per cent, dinotefuran 0.01 per cent and clothianidin 0.025 per cent were most effective against jassid. In accordance with the results obtained from three sprays, spinosad 0.009 per cent, imidacloprid 0.006 per cent, acetamiprid 0.008 per cent and difenthiuron 0.05 per cent were the most effective against thrips.

The highest cost benefit ratio (1:77.51) was obtained from the treatment of imidacloprid 0.005 followed by acetamiprid 0.008 per cent (1:74.83), dimethoate 0.03 per cent (1:74.06) and flonicamid 0.015 per cent (1:26.80). Other insecticides register lower yield and economic.