

ABSTRACT

The present work was conducted at Fayoum governorate for three successive years to study the integrated pest management of some aphid species as vectors of FBNYV throughout application of some agriculture practices i.e. sowing dates, hoeing and some recommended insecticides. It was found that :- there were four aphid species on faba bean plant, these species were, *Aphis craccivora*, *Myzus persicae*, *Aphis fabae* and *Aphis gossypii*, throughout both years. The average number of different aphid species during the 1st. year was 49.6 specimens/plant. This average ranged between 40.4 and 63.3 specimens/plant for the 1st., 2nd. and 3rd. sowing dates, respectively. The average number of different aphid species during the 2nd. year was 604.5 specimens/plant. This average ranged between 379.2, 138, 87.3 specimens/plant for the 1st., 2nd. and 3rd. sowing dates, respectively.

Apterous form was found to be greater than alate one and in general the average number of both forms was greater in non-hoeing than in hoeing plant. There was highly significant positive correlation between aphids number and temperature and insignificantly positive with R.H.% in the 1st. year, while it was highly significant negative with temperature and insignificantly positive with R.H.% in the 2nd. year.

There were five predator species associated with different aphid species on faba bean plants, these species were, *Orius albidipennis* , *O. laevigatus* ; true spider; *Coccinella undecimpunctata* and *Chrysoperla carnea*. These predators were greater in non-hoeing treatment than hoeing one . Statistical analysis proved that there was significant negative correlation with temperature and insignificant negative with R.H.% in the 1st. year, while it was highly significant negative with temp., and insignificant positive with R.H.% in the 2nd. year.

There were 17 winter weed species related to faba bean plant and seven aphid species were found on these weeds. The average number of different aphid species during the 1st. year was 330.0 specimens/plant. These value were 124.8, 70.0, 135.2 specimens/plant for the 1st., 2nd. and 3rd. sowing dates, respectively.

While in the 2nd. year the average was 312.7 specimens/plant ranging between 187.5, 77.6 and 51.8 specimens/plant for the 1st., 2nd. and 3rd. sowing dates, respectively.

Concerning the biological studies of FBNYV, it was found that FBNYV did not transmit by sap but transmit by aphids with acquisition access period (AAP) of 2h., inoculation access period (IAP) of 2h. and Latent access period(LAP) of 16h. *A. craccivora* was able to transmit virus more efficient than *A. fabae* and *A. gossypii* (*M. persicae* was not able to transmit the virus) .

Nymphs were more efficient as vectors of FBNYV than adults, it was found also that viruliferous mother aphids were not able to transmit virus to the newly borne progeny .

Concerning control studies, it was found that faba bean seeds treated with gauchó, hoed and sprayed by admiral or Neemix were found to be attacked with lower number of aphid than other treatments.

Key words: survey, population densities, agricultural practices, sowing dates, hoeing, FBNYV, acquisition, latent, inoculation access periods, susceptibility of different hosts for FBNYV, persistent, Gaucho, Admiral, Neemix ,aphids, predators ,faba bean.

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