

## Seasonal Population Fluctuations of Important Potato Sucking Insect Pests and Their Natural Enemies In Daran District of Isfahan Province, Iran

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### ABSTARACT

Daran district is one of the principal potato growing areas of Isfahan, Iran. *Thrips tabaci* Lindeman (thysa: Thripidae), and the leaf hopper *Empoasca decipiens* Paoli (Hom.: Cicadellidae), are two important potato pests in this area. This investigates seasonal population fluctuations of the above two species in the years 1985, and 1988. For the same years it covers a psylla species *Trioza* sp. (Hom.: Psyllidae), common predators such as lace wing, lady beetles and spiders, and also a kind of parasitism that appears on the abdomen of adult leaf hoppers. The relative population of the adult leaf hopper, psylla and predators were sampled with the sweeping net. The nymphal population of the leaf hopper and psylla, and nymph and adult population of thips were sampled with a leaf washing technique. Weekly sampling continued through the potato growing season. The efficiency of the leaf washing technique and direct population counts on leaves also compared. Both the leaf washing and direct count methods correlated well, but the leaf washing method proved less efficient with psylla nymphs, which stuck to leaf surfaces. Leaf hopper and psylla each had two distinct activity peak periods. The first activity period was from early June to late July, and the second from late July to late September. The relative density of thrips was much higher from early

June to late July. A kind of parasitism in the form of a cyst on the abdomen of adult leaf hoppers synchronised well with activity peak of adult leaf hoppers. Predators were most abundant in June and July. *Trioza* sp. was more common on a few new potato varieties. Such information is useful in the proper spray timing program and support of natural enemies in the area.

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