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Economic threshold level periods of *Empoasca decipiens* Paoli on different varieties of cotton in Varamin

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ABSTRACT

This leafhopper is one of the important pests of cotton in Iran which occurs with considerable density in most cotton fields. As a vector, it also transmits plant pathogens.

To carry out this investigation, Ten varieties of cotton, including Pak, Hopicala, Smooth leaf, Varamin, Sahel, Bakhtegan, Tashkent 1, Cokers 312, Oultan ank Okra selected and arranged in randomized complete block design with four replications in Varamin Agricultural Research Station. during the years 1991-1995. No chemicals were applied in the experimental field.

As soon as the insect pest appeared in the field, assessments of the aboundance of adult and nymphal populaticns started and continued until the harvesting period. In addition, the size of leves of each variety (leaf area index) was measured for statistical analysis.

At the end of this investigation, considering Economic Threshold Level = E.T.L. (100 leaf hoppers on 100 leaves) the rate of infestation were statistically analysed on different varieties.

The results of a five years study showed the cultivars Tashkent 1 and Sahel with 7.6 and 7.2 weeks above E.T.L repectively, were the most susceptible and the varieties Pak and Smooth leaf never reached E.T.L. during five years and the six other cultivars, Oultan, Okra, Cokers 312, Bakhtegan, Varamin and Hopicala with 6.8 , 6 , 5.6 , 5.4 , 2.8

and 2 week above E.T.L. respectively, were intermediate with respect to susceptibility.

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Study on reproductive biology and testing some rodenticides against *Spermophilus fulvus* Lichtenstein

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ABSTRACT

Spermophilus fulvus L. a serious rodent pest of agriculture, were captured through pourinin water in their burrows during two consecutive years (1992-2994) in Hamadan and Zanjan provinces. Sex ratio, number of progenies/pregnant female and body weight of both sexes were investigated. Male to female ratio were 1:1.1 wih average fecundity of 6.5 foetus/female and mean body weight of 782, 749 gr. for male and female respectively. Animal was observed with only one generation/ year with mean gestation period of 25 days.

The closed hole technique was used for estimating squirrel population density which involved closing burrow entrances and counting 24 hours later number of reopened burrows wih maximum of 117 and minimum 87 squirrel in Kabudar-Ahang and Bovin-Zahra respectively. Effectiveness of rodenticides were tested in the said provinces and higher percent mortality were obtained with the use of Zinc-phosphide followed Bromadiolone in Kabudar-Ahang 94.3% and Bovin-Zahra 93.9% while minimum mortality was 92% with Zinc-phosphide treatment only. This study suggest that, implementing an acute then an anti-coagulant rodenticides with an interval of 24 hours application, gave higher mortality, decreasing cost and amount of rodenticides used for the control of *S. fulvus*.

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