

## INVESTIGATION ON OUTBREAK OF THE BEET ARMYWORM

*SPODOPTERA EXIGUA* HB. (LEP. NOCTUIDAE)

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### Summary

Beet - armyworm is a polyphagus and cosmopolite insect pests and is a serious pest of sugarbeet in Iran. It occurs in sugarbeet fields every year, but its population varies greatly. A comprehensive study of literatures carried out under this topic which is fully dealt with in the text.

Information presented in this paper shows that the Beet-armyworm overwinters as pupal stage and has six generations per year, among which second and third generations are very economically important in Karaj area. It has been observed that sugarbeet and *Chenopodium* spp. are preferred for egg - laying and feeding, especially in early stage. Data obtained during five years of light trapping and sampling studies in Karaj area shows that the population of the Beet-armyworm was very high in 1972 and 1974 and was very low in 1970, 1971 and 1973. (Tab. 1 and 2). To determine the factors causing Beet-armyworm outbreak, various biotic and abiotic factors are carefully studied and discussed in this paper.

Serious outbreaks of the Beet-armyworm are dependent upon several contributing factors, which the important ones are considered as followings:

- 1) High density of the larvae in November and December, that is in fall of 1971 and 1973 an average of 94 and 64 larvae per 100 square metre was recorded respectively, whereas it was recorded very low in the fall of 1970 - 1972 and 1974 (Tab. 4)
- 2) Severe Winter, i.e. in 1971 and 1973 the average temperature of winter time was about - 6 and -3 centigrade degree respectively, whereas the average temperature of winter time in 1970, 1972 and 1974 was above zero. (Tab. 5)
- 3) Excessive precipitation. In agricultural seasons of 1972 and 1974, the rate of precipitation was more than the above mentioned three years. (Tab. 6)
- 4) Reduction of parasitism rate. In the fall of 1971 and 1973 it was observed that the rate of parasitism was lower than the other three years (1970, 1972 and 1974) (Tab. 3)
- 5) Late planting. During 1972 and 1974 due to cold spring and high precipitation, sugarbeet was planted late. Therefore, it caused seedlings and young beets being confronted with attack of the second generation of the Beet-armyworm.
- 6) Immigration. There are some indications that shows the Beet-armyworm probably immigrate to Karaj area from heavily infested areas during the outbreak years.

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