SOME STUDIES ABOUT THE DYNAMICS EVOLUTION OF THE BIRD'S – FOOT TREFOIL THRIPS (*ODONTOTHRIPS LOTI* HAL.) POPULATION IN THE CONDITIONS OF THE WESTERN PLAIN

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Abstract: *The Lotus corniculatus importance as a green crop consists in the fact that it could change the Lucerne and clover from some of the regions less auspicious for the crop. From this point of view, the opinion of many explorers is unanimous, so that the Lotus corniculatus is a leguminouse with the greatest adaptability at both different weather conditions and soil: drought, high humidity, acid or superficial soils, salts or with a low fertility, stubbed fields etc (Potînc, 1963; Varga, 1964; Pop, 1971, 1972; Dragomir, 1981; Winch and MacDonald, 1961, Laskey and Wakefield, 1978; Dionne, 1969, Varga, 1998). The purpose of the paper is the carrying out of some investigations concerning the incidence in samples and the dynamics of Odontothrips loti Hal. populations evolution. In order to carry out the investigations the experimental field was placed at the Didactical Station Timisoara, during the period of time 2008 - 2009. The experiment was placed after the standard method of location of the experiments; every lot had the length of 2 m and a width of 1 m. For identifying all the stages of the larvae ironwork was constructed and every lot was secluded with a catch mull. The distance between the repetitions was 4 m . For the study of the Lotus corniculatus thrips (Odontothrips loti Hal.) dynamics the collecting of the samples took place during 20 days, with a collecting periodicity at every 48 hours. The evolutions of the adult populations and larvae were similar during those two years of observations. In the case of adults a gradual increasing was observed in the first decade of May , followed by their gradual decreasing until the end of the period. In the case of the larvae after a short decreasing, thanks to the climatical conditions, an increasing of the population could observed, having the maximum of the value at the end of the observation period. The evolution of the populations is determined by the temperatures evolution and relative humidity of the air. The best moment for the application of the treatments was before the adult and especially the larvae populations to increase in an obvious way. By reaching these objectives we try to assure an efficient protection of the Lotus corniculatus crop and by this to obtain a seed production of high quality and a large quantity.*

Key words: *dynamics, bird's – foot trefoil, thrips, populations*

INTRODUCTION

The *Lotus corniculatus* importance as a green crop consist in the fact that it could change the Lucerne and clover from some of the regions fewer auspicious of the crop. From this point of view, the opinion of many explorers is unanimous, so that the *Lotus corniculatus* is a leguminous with the greatest adaptability at the distinct weather conditions and soil: drought, high humidity, acid or superficial soils, salts or with a low fertility, stubbed fields etc (DRAGOMIR, 1981; WINCH şi MACDONALD, 1961, Laskey and WAKEFIELD, 1978;VARGA, 1998).

The *Lotus corniculatus* has a great capability of autoinsemination, even in the conditions of a depasturage of a long time. Concurrently, the rusticity assures great qualities to the *Lotus corniculatus,* comparative with the other leguminouses such as, the lack of meteorisations production during the consumption under green table shape (ZAMFIRESCU, 1965).

The paper purpose is to bring contributions to the investigations concerning the incidence in samples and of *Odontothrips loti* Hal. populations evolution.

Thrugh realizing those objectives is fallowed the ensurance of an efficient protection of the *Lotus corniculatus* crop in obtaining a seed production of superior quality and a great quantity.

MATERIAL AND METHOD

In realizing the investigations the experimental field was placed at the Didactical Station Timisoara, in the period 2008 – 2009.

The experimental fields in realizing the ecological and biological investigations was placed after the standard method of location of the experiences, every lot had the length of 2 m and a latitude of 1 m. In identifying all the larvae stages was constructed an ironwork and every lot was secluded with a catch mull. Also it was a distance of 4 m amoung the repetitions (CIULCA, 2002).

In studying the *Lotus corniculatus* thrips biology (*Odontothrips loti* Hal.) the samples collecting was made during a period of 20 days, with o collecting periodicity at every 48 hours.

The controlled insects from the experimental field were determined in the Entomology Laboratory of Agricultural Sciences and Veterinary Medicine of Banat Timisoara with the help of specialized papers and determinations.

RESULTS AND DISCUSSIONS

Through the high relative incidence in samples of Odontothrips loti Hal. species, resulted that the pest presented a real economical importance. To obtain a huge quantity of seed and also of a superior quality is necessary to establish the best moment of treatments applying in function of pest population dynamics.

Thus, in experimental field conditions from S.D. Timisoara from the year 2008 it was observed an appreciable diminution of the adults number after the second collecting, followed by a progressive increasing with maximum values registered in date of 01.07.2008 (BADEA, 2005; 2007; 2008 a, b); (BAILEY, 1957).

Until the end of observation period it was registered a gradual diminution of the adults population (figure 1).

The larvae population presented an insignificant decreasing of the samples number after the first collecting, followed by a continue increasing, the maximum values registering at the date of 01.07.2008. The best moment to apply the treatments might be situated during the period 22.06- 01.07.2008 when not only the adults population but also the larvae were in increasing.

The population evolution was determined in a great measure by the relative humidity and temperature evolution of the air (figure 1). In the year 2009 the adults population presented also a diminution at the first reading, followed by a gradual increasing maximum being registered in 08.07., after that it followed a continue population diminution and obviously until the end of the collecting period (figure 2).

The larvae population also presented a diminution at the first reading, afterwards registered an increasing until the date of 06.07., followed by the oscillations period until the end of collecting period when the larvae population began to decrease. The best moment to apply the treatments was situated in the period 26.06.-06.07. before that the larvae and adults population increasing in an obvious way.

The weather conditions from this period, such as the very high temperatures also influenced the population dynamics (figure 2).

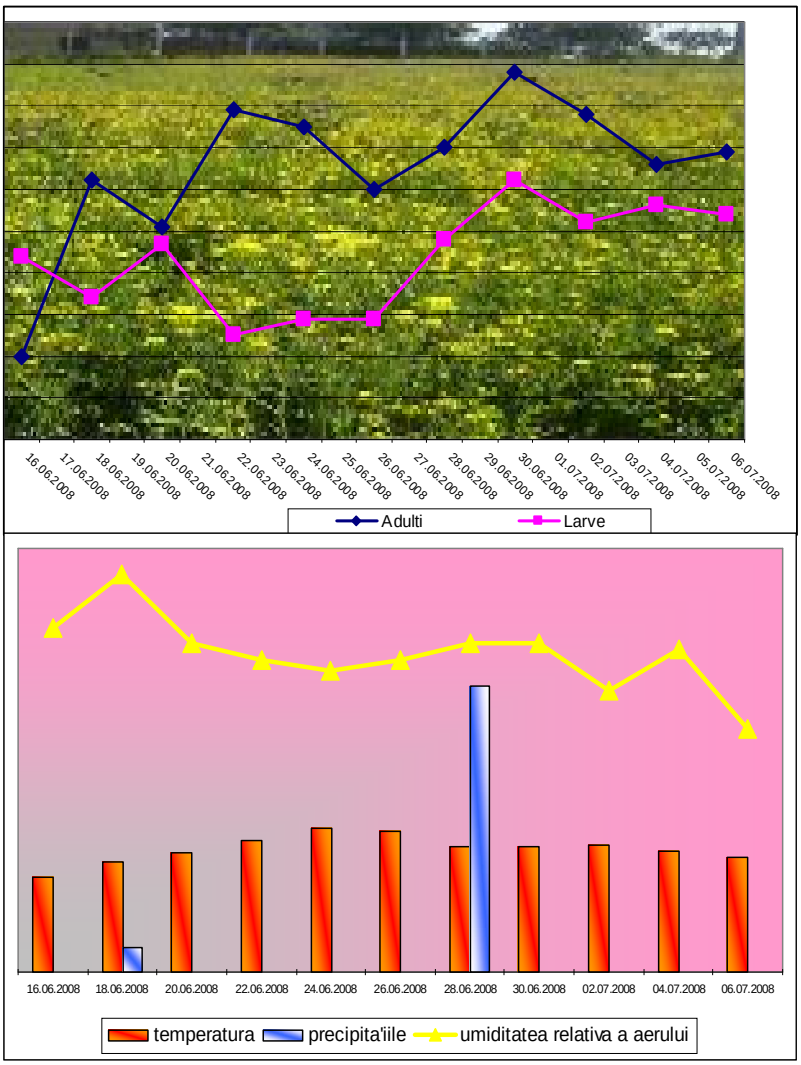

Figure 1. The dynamics of thrips larvae and adults population of the fingers-and-thumbs in the year 2008

Analyzing the Odontothrips loti Hal. population dynamics was observed that in the two years of observations these ones had an evolution in general similar not only in the adults case but also the larvae. In adults case registered a gradual increasing of the population in the first decade of the observations, followed by a gradual diminution of those towards the end of the period (figure 3). In the larvae case after a short diminution was observed a population increasing beginning with the first decade of observations, touching the maximum values at the end of the observations period (figure 4).

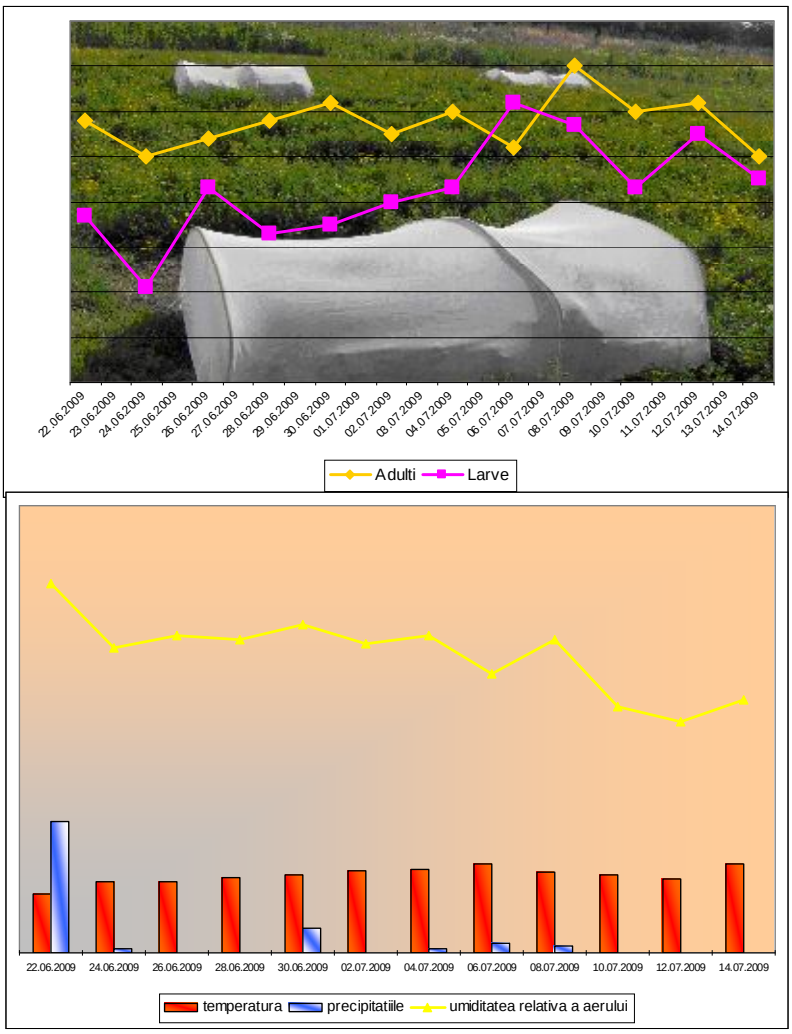

Figure 2. The dynamics of thrips larvae and adults population of the fingers-and-thumbs in the year 2009

CONCLUSION

The adults populations evolutions and larvae presented a similar evolution in those two years of observations.

In the adults case a gradual increasing was observed in the first decade of May month, followed by a gradual decreasing of those until the end of the period.

In the larvae case after a short decreasing, thanks to the climatical conditions, it could observed a populations increasing, having the maximum of the value at the end of observations period.

The populations evolution is determined by the temperatures evolution and relatival humidity of the air.

The best moment for the treatments applying was situated before that the adults populations and especially by the larvae increasing in an obvious way.

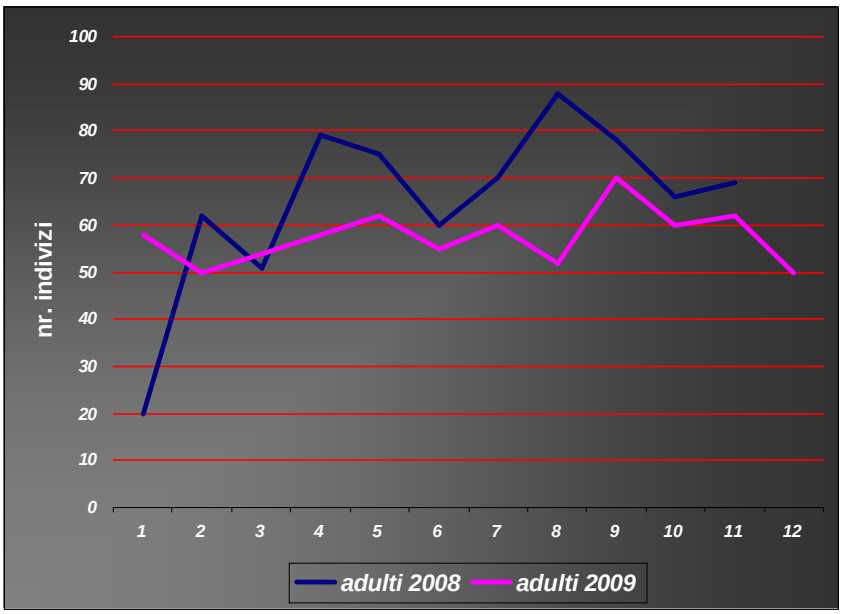

Figure 3. The dynamics population of bird's – foot trefoil thrips adults during the period 2008-2009

Figure 4. The dynamics population of bird's – foot trefoil thrips larvae during the period 2008-2009

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