OBSERVATION ON USEFUL AND HARMFUL ENTOMOFAUNA ACCORDING TO SOME TREATMENT APPLIED TO MAIZE SEEDS LOTS FOR HYBRIDATION IN ENVIRONMENTAL CONDITIONS OF ASTRA TRIFESTI SRL IASI

Cristina ANTONESCU[1], Mihai TĂLMACIU[1], Teodor ROBU [1], Marius Cornel ANTONESCU [1] Marius Sorin ZAHARIA[1]
E-mail: antonescu_cr@yahoo.com

Abstract

The research is aimed at achieving a study on harmful and useful Entomofauna in some agricultural crops seed located in the territory of SC Astra Trifesti, Iasi County.
The objectives fall within the current directions of biological research on biodiversity knowledge and different groups of insects in horticultural research on knowledge entomofauna useful and trophic relations established between parasites and their hosts represented by insect pests in agriculture. Mainly these issues will follow the corn seed lots produced in different Socet companies. The research was took place and during 2011, especially Phases of growth 0 – (Sprouting - East) Phases of growth 0,5 - (two leaves fully formed) Phases of growth 1 - (four leaves fully formed) Phases of growth 1,5 - (six leaves fully formed), Phases of growth 2 - eight fully formed leaves), Phases of growth 2,5 -(ten leaves fully formed). The main pests of this crop are: *Tanymecus dilaticolli, Agriotes spp., Scotia segetum Schiff, Ostrinia nubilalis Hb, Diabrotica virgifera virgifera Le Conte, Anoxia villosa L.*
The study was conducted in order to track and have followed the main pests of this crop, it was made regular observations directly on the farm. In addition to direct observations on the farm, also harvesting samples and evidence using the beeing method and traps soil type Barber.
Specify that in the stationary from the SC Astra Trifesti, Iasi County, samples collected was made from different seed lots in terms of cultivation technology.

Key words: pests, seed cropschemecal tratament

Corn occupies third place in importance, between plants grown in the world.

This position, in terms of agriculture, is motivated by a number of peculiarities, such as: have a large production capacity, with about 50% higher compared to other cereals, has a high ecological plasticity, which allows a wide range spread, giving high yields and relatively constant, less influenced by climatic irregularities, is a plant hoes, good run for most crops, monoculture supports many years, has a high multiplication factor (150-400), with a sowing in May late in the spring, allow better scheduling of agricultural work, culture is 100% mechanical, harvesting is done without danger of shaking, recovered well organic and mineral fertilizers and irrigation water, recovery of production possibilities are very varied, etc. (L.S. Muntean, 2003)

Losses in crops vary as follows: grain varies between 27-36% to reach 46% grain legumes, potatoes are 45%, sugar beet is 27% to 30% sunflower are in that between 8-15% incumbent pests. (Tălmaciu M., 2005).

The importance and purpose of this project is to study harmful and useful entomofaunei to some crops mainly maize seed, seed crops produced by different companies, which have different cultivation technologies.

The main pests of this crop: corn leaf ladybug *Tanymecus dilaticollis, Agriotes spp, Scotia segetum Schiff, Ostrinia nubilalis Hb, Diabrotica virgifera virgifera Le Conte, Anoxia villosa L* (Tălmaciu M., 2005, Georgescu T., et al., 1996).

MATERIAL AND METHOD

The research was conducted in 2011 in SC Trifesti which is microzone Bivolari who are in an area with temperate climate and is characterized by cold winters and hot summers, with irregular winds, most common in north-west and north - winter and south-east and east - especially in spring, with sufficient rainfall - especially in early summer.

Gathering material was ground using type Barber traps

[1] University of Agricultural Sciences and Veterinary Medicine Iasi

The objectives fall within the current directions of biological research on different groups of insect biodiversity knowledge and research in entomology and horticulture on knowledge useful entomofaunei trophic relations established between parasites and their hosts represented by insect pests in agriculture.

Traps were placed in four different seed lots, which we call Lot A, Lot B, Lot C, Lot D.

Research has been done for the first time in 2011 and will continue to establish a structure pest in this area.

RESULTS AND DISCUSSIONS

The experience was made in 2011, but will be done in the coming years. In all seed lots were made Zenon Karate treatments, active ingredient Lamba cyhalothrin 50 g / l at a dose of 0.15 l / ha. In the four seed lots (Lot A, Lot B, Lot C, Lot D) fauna collected in 2011 on traps and harvesting is as follows:

Lot A (tab.1):

- collection 1: one counterparts *Tanymecus dilaticollis* and two counterparts *Agriotes spp*.;
- collection 2: one counterparts *Tanymecus dilaticollis* and two counterparts *Agriotes spp*.

Total specimens collected in the four groups was 14, including seven in the first harvest and seven in the second harvest.

Given the number of specimens collected, we can say that the technology used in the SC Trifesti SRL, microzone Bivolari, seed corn production is modern and highly professional.

Table 1

The situation on the species and number of samples collected from A lot seed corn, the SC Astra Trifesti in 2011

No. collection	Species name	No. of trap						No. species	Total
		1	2	3	4	5	6		
1.	1.Tanymecus dilaticollis	0	0	0	1	0	0	1	6
	2.Agriotes spp.	0	0	0	0	2	0	2	
	3.Scotia segetum Schiff	0	0	0	0	0	0	0	
	4.Ostrinia nubilalis Hb	0	0	0	0	0	0	0	
	5.Diabrotica virgifera virgifera Le Conte	0	0	0	0	0	0	0	
	6.Anoxia villosa L	0	0	0	0	0	0	0	
Total x specii								4	
2.	1.Tanymecus dilaticollis	0	0	1	0	0	0	1	
	2.Agriotes spp.	0	2	0	0	0	0	2	
	3.Scotia segetum Schiff	0	0	0	0	0	0	0	
	4.Ostrinia nubilalis Hb	0	0	0	0	0	0	0	
	5.Diabrotica virgifera virgifera Le Conte	0	0	0	0	0	0	0	
	6.Anoxia villosa L	0	0	0	0	0	0	0	
Total x specii								3	

Table 2

The situation on the species and number of samples collected from B lot seed corn, the SC Astra Trifesti in 2011

No. collection	Species name	No. of trap						No. species	Total
		1	2	3	4	5	6		
1.	1.Tanymecus dilaticollis	0	0	0	0	0	0	0	2
	2.Agriotes spp.	1	0	0	0	0	0	1	
	3.Scotia segetum Schiff	0	0	0	0	0	0	0	
	4.Ostrinia nubilalis Hb	0	0	0	0	0	0	0	
	5.Diabrotica virgifera virgifera Le Conte	0	0	0	0	0	0	0	
	6.Anoxia villosa L	0	0	0	0	0	0	0	
Total x Species		1							
2.	1.Tanymecus dilaticollis	0	0	0	0	1	0	1	
	2.Agriotes spp.	0	0	0	0	0	0	0	
	3.Scotia segetum Schiff	0	0	0	0	0	0	0	
	4.Ostrinia nubilalis Hb	0	0	0	0	0	0	0	
	5.Diabrotica virgifera virgifera Le Conte	0	0	0	0	0	0	0	
	6.Anoxia villosa L	0	0	0	0	0	0	0	
Total x Species		1							

Table 3

The situation on the species and number of samples collected from C lot seed corn, the SC Astra Trifesti in 2011

No. collection	Species name	No. of trap						No. species	Total
		1	2	3	4	5	6		
1.	1.Tanymecus dilaticollis	0	1	0	0	0	0	1	3
	2.Agriotes spp.	0	0	0	0	0	1	1	
	3.Scotia segetum Schiff	0	0	0	0	0	0		
	4.Ostrinia nubilalis Hb	0	0	0	0	0	0		
	5.Diabrotica virgifera virgifera Le Conte	0	0	0	0	0	0		
	6.Anoxia villosa L	0	0	0	0	0	0		
Total x s Species		2							
2.	1.Tanymecus dilaticollis	0	0	0	0	0	0		
	2.Agriotes spp.	0	1	0	0	0	0	1	
	3.Scotia segetum Schiff	0	0	0	0	0	0		
	4.Ostrinia nubilalis Hb	0	0	0	0	0	0		
	5.Diabrotica virgifera virgifera Le Conte	0	0	0	0	0	0		
	6.Anoxia villosa L	0	0	0	0	0	0		
Total x Species		1							

Table 4

The situation on the species and number of samples collected from D lot seed corn, the SC Astra Trifesti in 2011

No. collection	Species name	No. of trap						No. species	Total
		1	2	3	4	5	6		
1.	1.Tanymecus dilaticollis	0	0	0	0	0	0	0	3
	2.Agriotes spp.	0	0	1	0	0	0	1	
	3.Scotia segetum Schiff	0	0	0	0	0	0	0	
	4.Ostrinia nubilalis Hb	0	0	0	0	0	0	0	
	5.Diabrotica virgifera virgifera Le Conte	0	0	0	0	0	0	0	
	6.Anoxia villosa L	0	0	0	0	0	0	0	
Total x specii		1							
2.	1.Tanymecus dilaticollis	0	0	2	0	0	0	2	
	2.Agriotes spp.	0	0	0	0	0	0	0	
	3.Scotia segetum Schiff	0	0	0	0	0	0	0	
	4.Ostrinia nubilalis Hb	0	0	0	0	0	0	0	
	5.Diabrotica virgifera virgifera Le Conte	0	0	0	0	0	0	0	
	6.Anoxia villosa L	0	0	0	0	0	0	0	
Total x specii		2							

Lot B (tab.2): collection 1:

- one counterparts *Agriotes spp*.; -

collection 2: one counterparts *Agriotes spp*.

Lot C (tab.3): -

- collection 1: one counterparts *Tanymecus dilaticollis* and one counterparts *Agriotes spp*.;

- collection 2: one counterparts *Agriotes spp.*

Lot D (tab.4):

- collection 1: one counterparts *Tanymecus dilaticollis* and two counterparts *Agriotes spp*.).

- collection 2: two counterparts *Tanymecus dilaticollis.*

On species frequency (tab.5) in the four corn seed lots (Lot A, Lot B, Lot C, Lot D) have found that:

- collection 1: two counterparts *Tanymecus dilaticollis* and five *Agriotes spp*.

- collection 2: four counterparts *Tanymecus dilaticollis* and three *Agriotes spp.*

CONCLUSIONS

From the data presented can make the following conclusions:

The largest number of *Agriotes spp* (5) was collected in a collection, (2 in group A and one in B, C, D).

Given the number of specimens collected, we can say that the technology used in the SC Trifesti SRL, micro Bivolari, seed corn production is modern and highly professional.

The largest number of *Tanymecus dilaticolis*. (4) was collected in collection 2 (1 in group A 1 in group B, 2 in group D).

Tabelul 5

Structure and abundence of species in four plot of maize in 2011, SC Astra Trifesti

No. collection	Species name	Lot				Total
		A	B	C	D	
1.	1.Tanymecus dilaticollis	1	0	1	0	2
	2.Agriotes spp.	2	1	1	1	5
	3.Scotia segetum Schiff	0	0	0	0	0
	4.Ostrinia nubilalis Hb	0	0	0	0	0
	5.Diabrotica virgifera virgifera Le Conte	0	0	0	0	0
	6.Anoxia villosa L	0	0	0	0	0
Total x Species i						7
2.	1.Tanymecus dilaticollis	1	1	0	2	4
	2.Agriotes spp.	2	0	1	0	3
	3.Scotia segetum Schiff	0	0	0	0	0
	4.Ostrinia nubilalis Hb	0	0	0	0	0
	5.Diabrotica virgifera virgifera Le Conte	0	0	0	0	0
	6.Anoxia villosa L	0	0	0	0	0
Total x Species						7

ACKNOWLEDGEMENTS

"This work was cofinanced from the European Social Fund through Sectoral Operational Programme Human Resources Development 2007-2013, project number POSDRU/I.89/1.5/S62371 ,,Postdoctoral Schole in Agriculture and Veterinary Medicine area".

BIBLIOGRAPHY

Georgescu, T., Tălmaciu M, Bădeanu, Mihaela - *Caiet de lucrări practice de Entomologie,* Editura Ion Ionescu de la Brad.

Muntean, L.S., Roman, Gh.V.,Borcean, I., Axinte, M. - *Fitotehnie*, Editura Ion Ionescu de la Brad, p. 160-161.

Tălmaciu, M., 2005 – *Entomologie Agricolă*, Editura Ion Ionescu de la Brad, Iaşi, p. 3-8.

Tălmaciu, M., 2003 – *Protecţia plantelor entomologice*, Editura Ion Ionescu de la Brad, Iaşi, p. 83-99.