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Research on the coccinelids species (Ord. *Coleoptera*, Fam. *Coccinelidae*) in some horticultural crops as well as their importance in maintaining biocenotic balance

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Abstract Observations were made during the research period 2017-2018 in the apple tree plantation, and in the cabbage crop belonging to Vasile Adamachi Iasi farm, Iasi county.The aim of the paper was to make a comparison regarding the entomofauna of coccinelids of the two very different cultures as technology and agroecosystem conditions. The collection of the material was carried out using the soil traps type Barber method from June to September inclusive. The collected material was cleaned of the vegetable debris was then prepared for identification up to the level of the spece only for coccinamide. From the analysis of the collected material it follows that the specimens of coccinelide species belong to the: *Coccinella septrepunctata, Propylaea quatorcimguttata, Adalia bipunctata, Coccinella 10-doctata, Harmonia axyridis, Hippodamia variegata, Nephus quadrimaculatus, Coccinella 10-dotted lime.subpointed* and *Calvia denemguttata*. In terms of the abundance of entomofauna, on the crops, it is found that most specimens were collected and determined from the cabbage crops (187), and from the apple orchard a number of 171 specimens. During the two study years in the two cultures were collected a number of eight species of "lady bugs", of which 6 species were common, namely: *Coccinella septempunctata, Propylaea quatordecimguttata, Adalia bipunctata, Harmonia axyridis, Coccinella 10-dotted* and *Harmonia axyrides*.

Key words

„lady bugs"; horticultural crops; abundance, dinamics

The importance of the species of coccinellids as zoophagous insects was mentioned by the great scientist Borcea who emphasized the usefulness of the predatory and parasitic insects in combating pests.
They are of particular importance in reducing the number of aphids, mites, thrips and other species of harmful insects, both larvae and adults feeding abundantly throughout the evolution period [9, 10].
Most species of coccinellids are predators of different *Homoptera*, but they can accept a variety of insects as food. The aphidophagous coccinellids are part of the *Coccinellina* subfamily, but aphidophagous is also present in representatives of the subfamilies *Scymninae* and *Chilocorinae* [5, 13]. Of all pest species, coccinelids are more common in all agricultural crops and throughout the growing season.

Material and Method

To identify the useful entomofauna of *Coccinellidae*, ord. *Coleoptera* („lady bugs") from the cultures taken in the study (apple and cabbage) within the stationary in the county of Iaşi located in the Teaching Farm Vasile Adamachi.

The material was collected using the soil traps type Barber from the 2 agricultural stationary, as folows: apple and cabbage crops. In this case were used 5 traps in each crop, and the harvesting was carried out from June to September inclusive, at intervals between the date of the installation of the traps on May 30 in 2017, and the first collection was made on March 3, 2017. The distance between traps in a row was about 5 m. Also, were installed 5 traps for each stationary [6, 15].
The traps type Barber are represented by plastic pots with 500 ml volume that are buried at ground level. The burial of the boxes has been done with care, so that the edge of the trap is perfectly level at the ground, and the insects easily to enter.
In the soil traps type Barber was used a salt solution as a fixative liquid. The fixing fluid has a great influence on the effectiveness of the traps and must have good preservative qualities [2, 4, 11].
By placing at least 5 traps, all species categories can be collected to establish dominance in a biotope.
At each collection, the contents of each box were placed on a sieve doubled by a strip of gauze to separate the insects („lady bug") from the fixing fluid. The pachet o gauze with each sample was inserted into labeled jars. The label contains the following information: stationary, culture, date of collection and

trap number. It was used medicinal alcohol to preserve the elasticity of the insects and their preservation. After each collection, the trap was re-introduced into the ground, and the fixing fluid was replaced.
The collected material was brought to the laboratory, and the insects were determined and inventoryed.

Results and Discussions

A. By applying the collection method using the soil traps type Barber, were tracked the structure, dynamics and abundance of the *Coccinellidae* entomofauna collected in 2017 from apple and cabbage crops.

In the research year 2017, a number of 15 periodic collections were carried out for the harvesting of biological material in apple and cabbage crops at the following dates: 03.06, 07.06, 13.06, 20.06, 30.06, 05.07, 09.07, 14.07, 20.07, 25.07, 01.08., 07.08, 14.08, 21.08, 01.09.
In the apple orchard, the results regarding the structure of the coccinellids (*Coleoptera-Coccinellidae*) collected from the apple orchard can be presented in table 1.

Table 1

Structure of coccinelids sampled by the mean of Barber traps-Adamachi-Apple

No.	Name of species	No of specimens
1.	*Coccinella septempunctata*	117
2.	*Adalia bipunctata*	52
3.	*Coccinella 10-punctata*	19
4.	*Harmonia axyridis*	18
5.	*Hippodamia variegata*	14
6.	*Nephus quadrimaculatus*	3
7.	*Propylaea quatordecimpunctata*	52
TOTAL SPECIES = 7		**275**

The coccinelids species represent 75.97% of the total number of beetles. A number of 7 species of coccinellids were identified, the most abundant species being *Coccinella septempunctata* (117 specimens), followed by the species *Propylaea quatordecimpunctata* and *Adalia bipunctata* (with 52 specimens) (Table 2).

Table 2

Entomofauna of *Coccinellidae* on total harvests depending on number of Coleopterans-Apple-Barber

Species of *Coccinelidae*	No. of specimens	Total coccinelids	Total coleopters	% of total coleopters	No. of harvesting
Coccinella septempunctata	117	275	362	75,97%	15
Propylaea quatordecimguttata	52				
Adalia bipunctata	52				
Coccinella 10-punctata	19				
Harmonia axyridis	18				
Hippodamia variegata	14				
Nephus quadrimaculatus	3				
TOTAL = 7 species	**275**				

Regarding the dynamics of the species of coccinellids collected from apple tree plantations, in 2017, at the soil traps typeB arber, it is presented in figures 1 and 2.

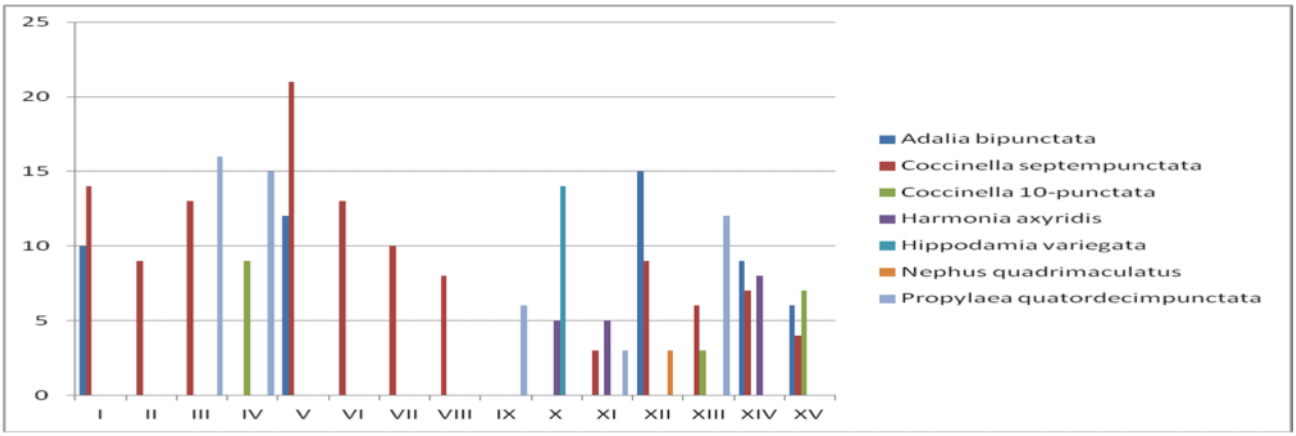

Figure 1. Dynamic of each species of *Coccinellidae* within apple orchard

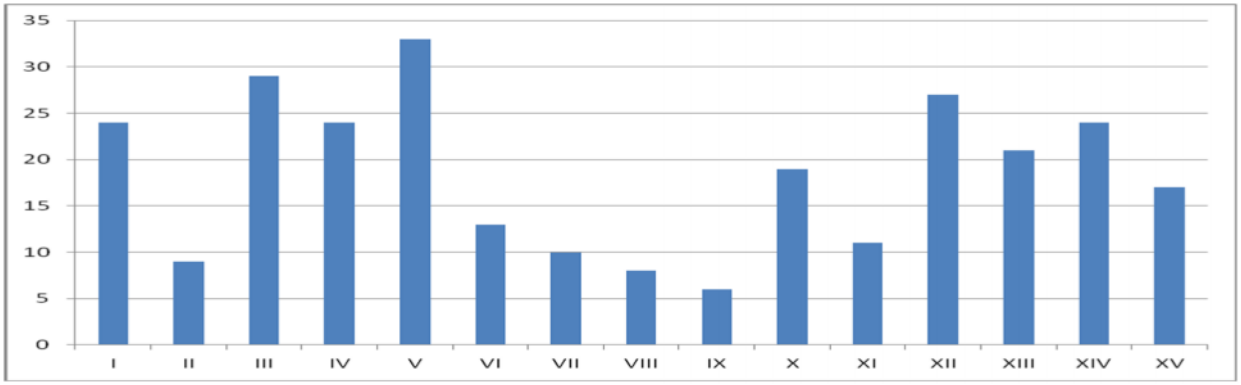

Figure 2. Dynamic of all coccinelids species within apple orchard

In 2017, in the Adamachi stationary at apple orchard, using the soil trap type Barber method, was identified a number of 7 species of *Coccinellidae* with 275 specimens.

In order to interpret the results as accurately as possible, the following ecological indices of coccinellid species were calculated: abundance (A), constancy (C), dominance (D) and ecological significance index (W). The values of these indices in 2017 for apple orchards are presented in table 3.

Table 3

Values of the ecological indices for the *Coccinellidae* species on the harvests-Apple-Barber

Name of species	ECOLOGICAL INDICES						
	A	C		D		W	
		%	class	%	class	%	class
Coccinella septempunctata	117	30	C_2	42,545	D_5	12,7635	W_5
Propylea quatordecimpunctata	52	11,1	C_1	18,909	D_5	2,0989	W_3
Adalia bipunctata	52	10	C_1	18,909	D_5	1,8909	W_3
Coccinella 10-punctata	19	3,3	C_1	6,909	D_4	0,2279	W_2
Harmonia axyridis	18	3,3	C_1	6,545	D_4	0,2159	W_2
Hippodamia variegata	14	3,3	C_1	5,091	D_3	0,1681	W_2
Nephus quadrimaculatus	3	1,1	C_1	1,091	D_1	0,0121	W_1
TOTAL	**275**						

The most abundant species were *Coccinella septempunctata* (117 specimens), *Propylaea quatordecimpunctata* and *Adalia bipunctata* (52 specimens of each).

The constancy of the species of coccinellidae collected had values between 1.1 and 30%, and the species with the highest values were: *Coccinella septempunctata* (30%) - accessory species, followed by the species *Propylaea quatordecimpunctata* (11.1%) and *Adalia bipunctata* (10%) - accidental species.

Dominance had the highest values in the species *Coccinella septempunctata* (42,545%), *Propylaea quatordecimpunctata* and *Adalia bipunctata* (with 18.909%) all being eudominant species.

The ecological significance index (W) recorded values between 0.0121% and 12.7635%, the highest value (12.7635%) being recorded for the species *Coccinella septempunctata*.

B. In the cabbage culture, in 2017, the results regarding the structure of the coccinellids (*Coleoptera-Coccinellidae*) collected from the cabbage culture are presented as follows (Table 8):.

Table 8

Structure of coccinelids sampled by the mean of Barber traps-Cabbage crop

No.	Name of species	Number of specimens
1.	*Coccinella septempunctata*	122
2.	*Adalia bipunctata*	87
3.	*Harmonia axyridis*	76
4.	*Propylaea quatordecimpunctata*	74
5.	*Coccinella 10-punctata*	31
6.	*Coccinella 10-punctata var.subpunctata*	9
7.	*Calvia decemguttata*	5
8.	*Hippodamia variegata*	5
TOTAL = 8 species		**409**

The Coccinelids represent 63.02% of the total number of beetles. A number of 8 species of coccinellids were identified, the most abundant species being *Coccinella septempunctata* (122 specimens) followed by *Adalia bipunctata* (87 specimens) and *Harmonia axyridis* (76 specimens) (Table 9).

Table 9

Entomofauna of *Coccinellidae* on total harvests depending on Coleopteras number-Barber-cabbage

Species of *Coccinelidae*	No. of specimens	Total coccinelids	Total coleopters	% of total coleopters	No. of harvesting
Coccinella septempunctata	122	409	649	63.02%	15
Adalia bipunctata	87				
Harmonia axyridis	76				
Propylaea quatordecimpunctata	74				
Coccinella 10-punctata	31				
Coccinella 10-punctata var.subpunctata	9				
Calvia decemguttata	5				
Hippodamia variegata	5				
TOTAL = 8 species	**409**				

Regarding the dynamics of the **species of coccinellids collected from the cabbage culture, in 2017**, at the soil traps type Barber, it is presented in figures 5 and 6**.**

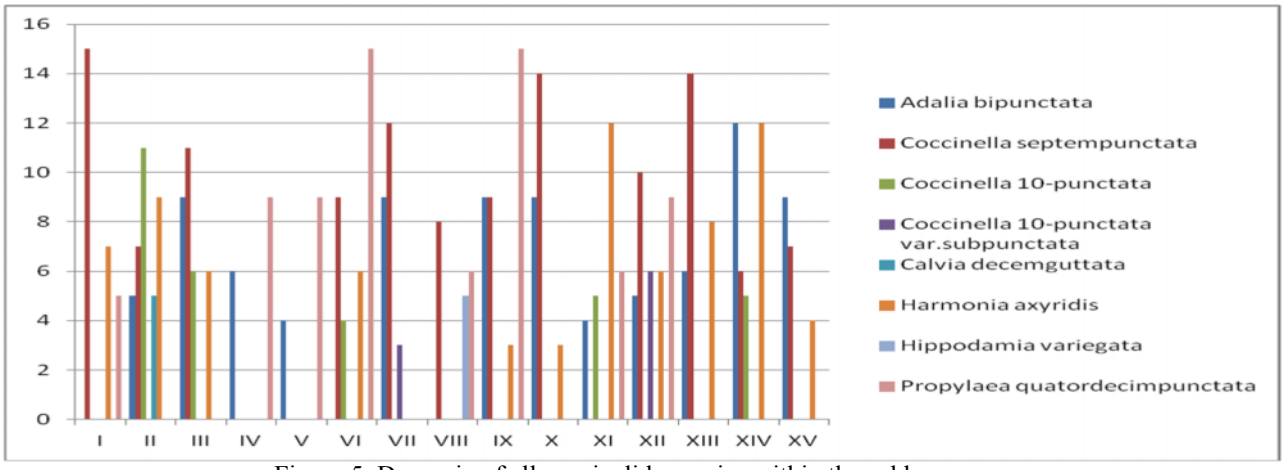

Figure 5. Dynamic of all coccinelids species within the cabbage crop

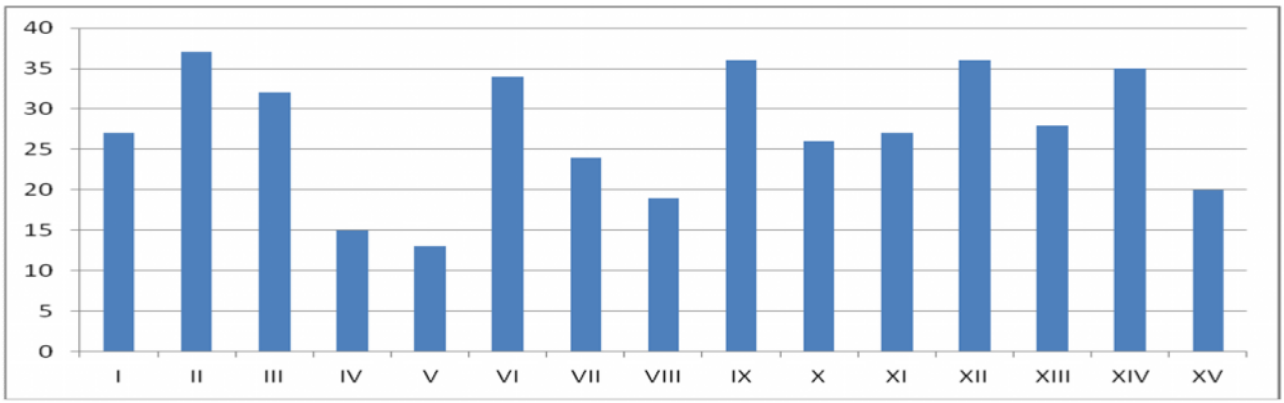

Figure 6. Dynamic of all coccinelids species within the cabbage crop

In 2017, in the Adamachi stationary, **in the cabbage culture**, using the Barber soil trap method, a number of 8 species of *Coccinellidae* was identified with 409 specimens.

For the purpose of interpreting the obtained results, ecological indices were calculated: abundance (A), constancy (C), dominance (D) and ecological significance index (W).

The values of these indices in 2017 for cabbage culture are presented in table 10.

The most abundant species were *Coccinella septempunctata* (122 specimens), *Adalia bipunctata* (87 specimens) and *Harmonia axyridis* (76 specimens). The constancy of the collected coccinellid species had values between 1.1 and 20%, and the species with the highest values were: *Coccinella septempunctata* (20%), *Adalia bipunctata* (16.6%) and *Harmonia axyridis* (15.5%) - all being accidental species.

Table 10

Values of the ecological indices for the *Coccinellidae* species on total harvests-Cabbage-Barber

No.	Name of species	ECOLOGICAL INDICES						
		A	C		D		W	
			%	Clasa	%	Clasa	%	clasa
1	*Coccinella septempunctata*	122	20	C_1	29,82	D_5	5,9641	W_4
2	*Adalia bipunctata*	87	16,6	C_1	21,3	D_5	3,5358	W_3
3	*Harmonia axyridis*	76	15,5	C_1	18,6	D_5	2,8831	W_3
4	*Propylea quatordecimpunctata*	74	10	C_1	18,1	D_5	1,8111	W_3
5	*Coccinella 10-punctata*	31	6,6	C_1	7,6	D_4	0,5016	W_2
6	*Coccinella 10-punctata var subpunctata*	9	2,2	C_1	2,2	D_3	0,0484	W_1
7	*Calvia decemguttata*	5	2,2	C_1	1,2	D_2	0,0264	W_1

Dominance had the highest values in the species *Coccinella septempunctata* (29.82%), *Adalia bipunctata* (21.3%) and *Harmonia axyridis* (18.6%), all being eudominant species. The ecological significance indexes (W) recorded values between 0.0132% and 5.9641%, the highest value being registered for the *Coccinella septempunctata* species-characteristic species.

Comparative structure of coccinellid species in the two cultures, in 2017

A total number of 9 species of "lady bug" was identified, totalized 684 specimens, the largest number being identified in cabbage culture (409). The most abundant species was *Coccinella septempunctata* with a total number of specimens in the two cultures of 239. The largest number of specimens were identified in cabbage culture (122 specimens) and apple culture (117 specimens) (Table 11).

Dominance in case of this species ranged from 29.82 (cabbage culture) to 42.545 (apple orchard).

The total number of specimens of the species *Adalia bipunctata* was 139, the highest being recorded in cabbage culture (87). The dominance in this species ranged from 21.3 (cabbage culture) to 18.9 (apple). The total number of specimens of *Propylaea quatordecimpunctata* was 126, the largest number was recorded in cabbage culture (74).

Table 11

Abundance, dominance of *Coccinellidae* within the apple and cabbage-2017-Adamachi-Barber traps

No.	Name of species	Horticultural crops				Total
		Apple		Cabbage		
		A	D(%)	A	D(%)	
1	*Coccinella septempunctata*	117	42,545	122	29,82	239
2	*Adalia bipunctata*	52	18,909	87	21,3	139
3	*Propylaea quatordecimpunctata*	52	18,909	74	18,1	126
4	*Harmonia axyridis*	18	6,545	76	18,6	94
5	*Coccinella 10-punctata*	19	6,909	31	7,6	50
6	*Hippodamia variegata*	14	5,091	5	1,2	19
7	*Calvia decemguttata*	-	-	5	1,2	5
8	*Coccinella 10 punctata var subpunctata*	-	-	9	2,2	9
9	*Nephus quadrimaculatus*	3	1,091	-	-	3
	TOTAL = 9 species	**275**		**409**		**684**

Structure, abundance and dynamics of the *Coleoptera-Coccinellidae* entomofauna collected in 2018 from apple and cabbage crops using the Barber soil trap method.

In the research year 2018, were carried out a number of 15 periodic collections for the harvesting of biological material in apple and cabbage crops in the following data.: 07.05; 14.05; 22.05; 30.05; 02.06; 07.06; 14.06; 21.06; 28.06; 04.07; 11.07; 18.07; 23.07; 01.08. 05.08.

A. In apple orchards, in 2018, the results regarding the structure of coccinellids (*Coleoptera-Coccinellidae*) collected from apple orchards are presented in table 12.

Coccinelids represent 57.38% of the total number of beetles. A number of 8 species of coccinellids were identified, the most abundant species being *Propylaea quatordecimpunctata* (53 specimens), followed by *Coccinella septempaunctata* (45 specimens) and Adalia bipunctata (27 specimens) (Table 13).

Table 12

Structure of coccinelids sampled by the mean of Barber traps-Apple orchard

No	Name of species	Number of specimens
1.	*Propylaea quatordecimpunctata*	53
2.	*Coccinella septempunctata*	45
3.	*Adalia bipunctata*	27
4.	*Harmonia axyridis*	22
5.	*Coccinella hieroglyphica*	9
6.	*Coccinella 10-punctata*	8
7.	*Calvia decemguttata*	4
8.	*Coccinella 10-punctata var.subpunctata*	3
TOTAL SPECIES = 8		**171**

Table 13

Entomofauna of *Coccinellidae* on total harvests depending on Coleopteras number-Apple-Barber

Species of *Coccinelidae*	No. of specimens	Total coccinelids	Total coleopters	% of total coleopters	No. of harvesting
Propylaea quatordecimpunctata	53	171	298	57,38%	15
Coccinella septempunctata	45				
Adalia bipunctata	27				
Harmonia axyridis	22				
Coccinella hieroglyphica	9				
Coccinella 10-punctata	8				
Calvia decemguttata	4				
Coccinella 10-punctata var. *subpunctata*	3				
TOTAL = 8 species	**171**				

Regarding the dynamics of the species of coccinellids collected from the apple orchard, in 2018, at the soil traps -type Barber, it is presented in Figures 7 and 8.

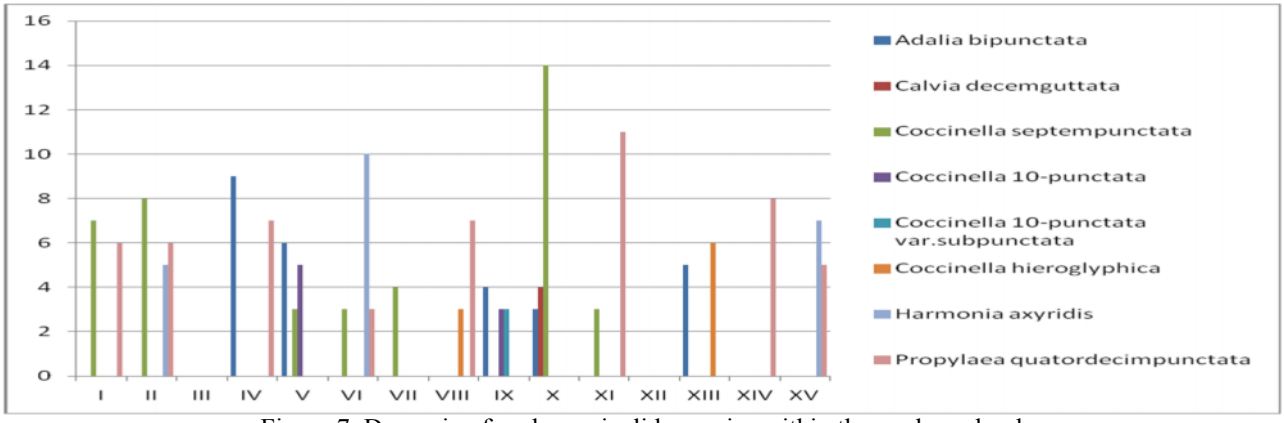

Figure 7. Dynamic of each coccinelids species within the apple orchard

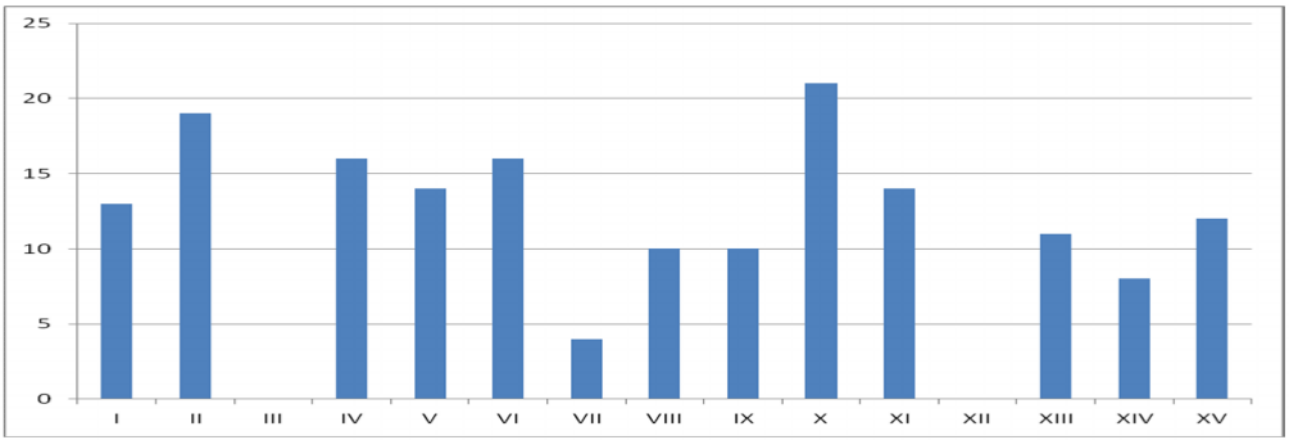

Figure 8. Dynamic of all coccinelids species within the apple orchard

In 2018, in the Vasile Adamachi stationary, at apple orchards, using the Barber soil trap method, a number of 8 species of *Coleoptera-Coccinellidae* with 171 specimens were identified.

For the purpose of interpreting the obtained results, ecological indices were calculated: abundance (A), constancy (C), dominance (D) and ecological significance index (W). The values of these indices in 2018 for apple orchards are presented in table 14.

The most abundant species were: *Propylaea quatordecimpunctata* (53 specimens), *Coccinella septempunctata* (45 specimens) and *Adalia bipunctata* (27 specimens).

The constancy of the collected coccinellid species had values between 1.11 and 22.22%, and the species with the highest values were: *Propylaea quatordecimpunctata* (22.22%), *Coccinella septempunctata* (18.88%) and *Adalia bipunctata* (11.11%) - all being accidental species.

Dominance had the highest values for *Propylaea quatordecimpunctata* (30.99%), *Coccinella septempunctata* (26.31%) and *Adalia bipunctata* (15.79%), all being eudominant species.

The ecological significance index (W) recorded values between 0.0259% and 6.8859%, the highest value being registered for *Propylaea quatordecimpunctata*-characteristic species.

Table 14

Values of the ecological indicators for *Coccinellidae* species on total harvests-apple-Barber

No.	Name of species	ECOLOGICAL INDICES						
		A	C		D		W	
			%	Class	%	Class	%	Class
1.	*Propylaea quatordecimpunctata*	53	22.22	C	30.99	D_5	6.8859	W_4
2.	*Coccinella septempunctata*	45	18.88	C_1	26.31	D_5	4.9673	W_3
3.	*Adalia bipunctata*	27	11.11	C_1	15.79	D_5	1.7543	W_3
4.	*Harmonia axyridis*	22	8.88	C_1	12.86	D_5	1.1419	W_3
5.	*Coccinella hieroglyphica*	9	4.44	C_1	5.26	D_4	0.2335	W_2
6.	*Coccinella 10-punctata*	8	2.22	C_1	4.68	D_3	0.1039	W_2
7.	*Calvia decemguttata*	4	1.11	C_1	2.34	D_3	0.0259	W_1
8.	*Coccinella 10-punctata var.subpunctata*	3	2.22	C_1	1.75	D_2	0.0388	W_1
TOTAL = 8 species		**171**						

B. For cabbage culture, in 2018, the results regarding the structure of the coccinellids (*Coleoptera-Coccinellidae*) collected **from the cabbage culture** are found in table 15.

Table 15

Structure of coccinelids sampled by the mean of Barber traps-cabbage crop

No.	Name of species	Number of specimens
1.	*Coccinella septempunctata*	86
2.	*Propylaea quatordecimpunctata*	28
3.	*Adalia bipunctata*	24
4.	*Harmonia axyridis*	22
5.	*Coccinella hieroglyphica*	14
6.	*Coccinella 10-punctata*	6
7.	*Halyzia 22-punctata*	4
8.	*Coccinella var.5-punctata*	3
TOTAL SPECIES = 8		**187**

Coccinelids represent 68.75% of the total number of beetles. A number of 8 species of coccinellids were identified, the most abundant species being *Coccinella septempunctata* (86 specimens) followed by *Propylaea quatordecimpunctata* (28 specimens) and *Adalia bipunctata* (24 specimens) (Table 16).

Table 16

Entomofauna of *Coccinellidae* on total harvests depending on Coleopters number-Cabbage-Barber

Species of *Coccinelidae*	No. of specimens	Total coccinelids	Total coleopters	% of total coleopters	No. of harvesting
Coccinella septempunctata	86	187	272	68,75%	15
Propylaea quatordecimpunctata	28				
Adalia bipunctata	24				
Harmonia axyridis	22				
Coccinella hieroglyphica	14				
Coccinella 10 punctata	6				
Halyzia 22 –punctata	4				
Coccinella var 5 punctata	3				
TOTAL = 8 species	**187**				

Regarding the dynamics of coccinellid species collected from cabbage culture, in 2018, in Barber soil traps, it is presented in Figures 11 and 12.

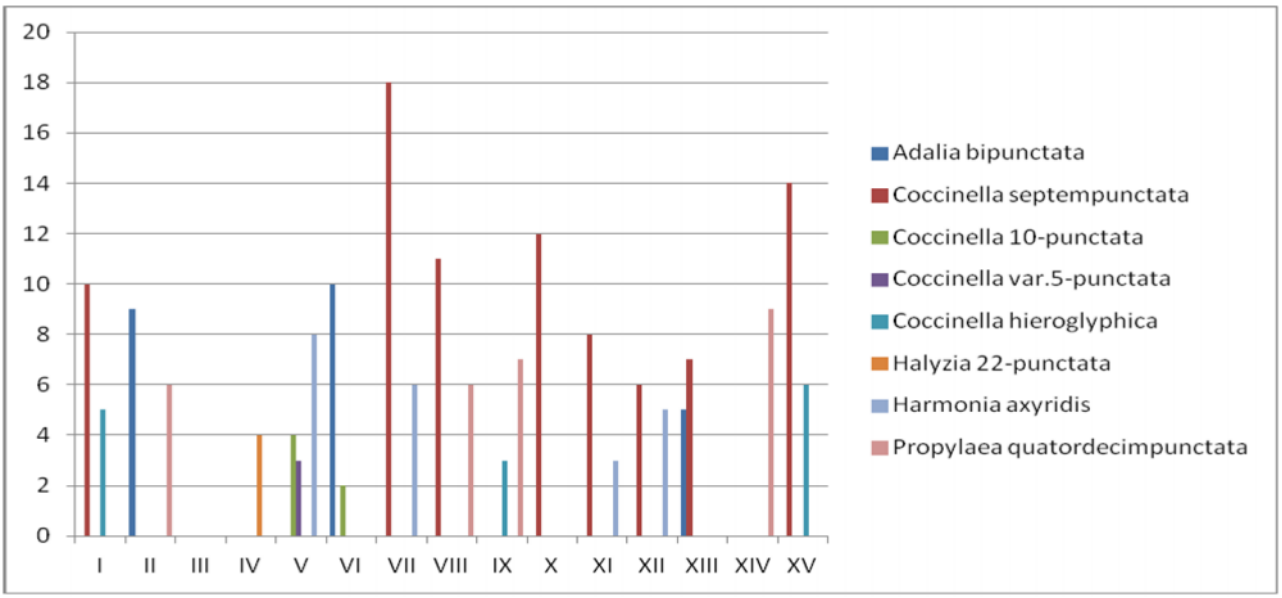

Figure 11. Dynamic of each coccinelids species within the cabbage crop

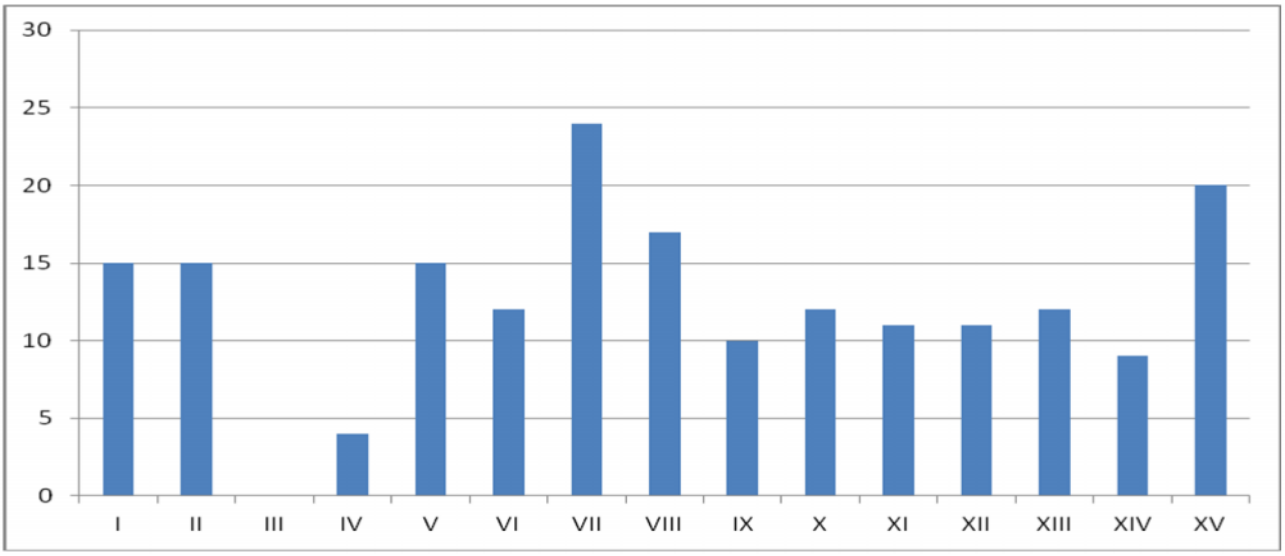

Figure12. Dynamic of all coccinelids species within the cabbage crop

In 2018, in the Adamachi stationary, in the cabbage culture, using the soil trap type Barber method, a number of 8 *Coccinellidae* species was identified with 187 specimens.

For the purpose of interpreting the obtained results, ecological indices were calculated: abundance (A), constancy (C), dominance (D) and ecological significance index (W).

The values of these indices in 2018 for cabbage culture are presented in table 17.

The most abundant species were *Coccinella septempunctata* (86 specimens), *Propylaea quatordecimpunctata* (28 specimens) and *Adalia bipunctata* (24 specimens). The constancy of the species of coccinellidae collected had values between 0.1 and 34.44%, and the species with the highest values were: *Coccinella septempunctata* (34.44%), *Propylaea quatordecimpunctata* (13.33%) and *Adalia bipunctata* (7.77%) - all being accidental species;

Dominance had the highest values in the species *Coccinella septempunctata* (45.99%), *Propylaea quatordecimpunctata* (14.97%) and *Adalia bipunctata* (12.83%) - all being eudominant species. The ecological significance index (W) recorded values between 0.0357% and 15.8389%, the highest value being recorded for the *Coccinella septempunctata* species-characteristic species.

Table 17

Values of the ecological indices for the *Coccinellidae* species on total harvests within the cabbage-Barber

No.	Name of species	ECOLOGICAL INDICES						
		A	C		D		W	
			%	Class	%	Class	%	Class
1	*Coccinella septempunctata*	86	34,44	C_2	45,99	D_5	15,8389	W_5
2	*Propylaea Quatordecimpunctata*	28	13,33	C_1	14,97	D_5	1,9955	W_3
3	*Adalia bipunctata*	24	7,77	C_1	12,83	D_5	0,9969	W_2
4	*Harmonia axyridis*	22	0,1	C_1	11,76	D_5	0,1176	W_2
5	*Coccinella hieroglyphica*	14	6,66	C_1	7,49	D_4	0,4988	W_2
6	*Coccinella 10 punctata*	6	3,33	C_1	3,21	D_3	0,1069	W_2
7	*Halyzia 22 –punctata*	4	1,11	C_1	2,14	D_3	0,2375	W_3
8	*Coccinella var 5 punctata*	3	2,22	C_1	1,61	D_2	0,0357	W_1
	TOTAL	**187**						

Comparative structure of coccinellid species in the two cultures, in 2018

Analyzing the results obtained in the research year 2018 in the Vasile Adamachi stationary for apple and cabbage crops studied using the soil trap type Barber method (table 18) it can be observed that:

- A total number of 10 species totaling 358 specimens were identified, the largest number of specimens identified being in cabbage culture (187). The most abundant species was *Coccinella septempunctata* with a total number of specimens in the three cultures of 131. The largest number of specimens were identified in the cabbage culture (86 specimens) and in the apple culture (45 specimens). The dominance for this species was 26.31% (apple crop) and 45.99% (cabbage culture).

The total number of specimens of *Propylaea quatordecimpunctata* was 81, the highest number being recorded in apple orchards (53). Dominance for this species was 14.97% (cabbage culture) and 30.99% (apple orchards).

- The total number of specimens of the species *Adalia bipunctata* was 51, the largest number being registered in the apple plantations (27). Dominance for this species of "lady bug"ranged from 12.83% (cabbage culture).

Table 18

Abundance and dominance of *Coccinellidae* within apple and cabbage crops-2018-Adamachi Method of Barber traps

No.	Name of species	Horticultural crops				Total
		apple		cabbage		
		A	D (%)	A	D (%)	
1	*Coccinella septempunctata*	45	26,31	86	45,99	131
2	*Propylaea quatordecimpunctata*	53	30,99	28	14,97	81
3	*Adalia bipunctata*	27	15,79	24	12,83	51
4	*Harmonia axyridis*	22	12,86	22	11,76	44
5	*Coccinella hieroglyphica*	9	5,26	14	7,49	23
6	*Coccinella 10 punctata*	8	4,68	6	3,21	14
7	*Coccinella var 5 punctata*	-	-	3	1,61	3
8	*Halyzia 22 –punctata*	-	-	4	2,14	4
9	*Calvia decemguttata*	4	2,34	-	-	4
10	*Coccinella 10-punctata var subpunctata*	3	1,75	-	-	3
	TOTAL	**171**		**187**		**358**

Conclusions

During the research were collected from a number of specimens belonging to 10 species of *Coccinelidae* familly with 358 of specimens. These were: *Coccinella septempunctata, Propylaea quatordecimguttata, Adalia bipunctata, Coccinella 10-punctata, Harmonia axyridis, Hippodamia variegata, Nephus quadrimaculatus, Coccinella 10-punctata* var.*subpunctata* and *Calvia decemguttata.*

In the Vasile Adamachi stationary from Iasi, of the 10 collected species was noted the species *Coccinella septempunctata* with a total number of 131, of which 45 specimens in the apple orchard and 86 specimens in the cabbage culture.

The lowest number of collected specimens (3) was recorded by the species *Coccinella var 5 punctata* in cabbage culture and *Coccinella 10 punctata* in the apple orchard.

Following the calculations made for the analysis of the statistical parameters it can be observed that the species *Coccinella septempunctata*, *Propylaea quatordecimpunctata* and *Adalia bipunctata* recorded the highest abundance.

The constancy of the species of Coccinellidae collected in the two years of research in the two cultures taken in the study had values between 0.1 and 34.44%.

Dominance had the highest values in the species *Coccinella septempunctata* (45.99%), *Propylaea quatordecimpunctata* (14.97%) and *Adalia bipunctata* (12.83%) - all being eudominant species.
The ecological significance index (W) recorded values between 0.0357% and 15.8389%, the highest value being recorded for the Coccinella septempunctata species-characteristic species.

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