THE RESULTS CONCERNING THE INFLUENCE OF VARIETY AND THE MEASURES TO FIGHT AGAINST PESTS ON THE TOTAL YIELD OF WHITE CABBAGE (PART II)

REZULTATE PRIVIND INFLUENȚA CULTIVARULUI ŞI A MĂSURILOR DE COMBATERE A DĂUNĂTORILOR ASUPRA PRODUCȚIEI TOTALE LA VARZA ALBĂ (PARTEA a II-a)

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RESULTS AND DISCUSSIONS (CONTINUATION)

The degree of attack of the pests on the autumn cabbage crop was estimated through the degree of attack of the cabbage fleas and moths (table 5).

The degree of attack of the cabbage fleas on the autumn crop had values between 10.6 % at Lares variety and 12.4 % at Braunschweing variety, where Neemazal T/S – 0.5% was used, in the planting phenophasis.

The degree of attack of the cabbage fleas in the rosette phenophasis for the autumn crop had values between 5.9% at De Buzău variety, where Neemazal T/S – 0.5% was used, and 10.4% at Braunschweing variety where, Dipel - 0.15% was used. The degree of attack of the cabbage moth was determined at larval stage in rosette and binding phenophases of the autumn crop. The degree of attack had values between 5.6 % at Lares variety in the rosette phenophasis, where *Trichogramma evanescens* x 3 applications x 120.000 ex./ha were used and 7.9 % at the same protection measures. The degree of attack in the head binding phenophasis had values between 7.9 % at De Buzau variety, where *Trichogramma evanescens* x 3 applications x 120.000 ex./ha was used, and 10.7 % at the same variety where Neemazal T/S – 0.5% was used.

The influence of variety and pest fighting measures used on the total summer crop is shown in table 5. The results shown in the table confirm the interpretation of the analysis of variance through distinct significant differences between the different factor combinations (table 6).

The total production varied from 43.60 t/ha at Lares variety when Dipel – 0.15 % was used to fight the complex of pests, to 54.47 t/ha at De Buzau variety when Neemazal T/S – 0.5% was used as a protection measure. The production differences compared to the mean of the experiment varied from –4.49 t/ha (Lares x Dipel - 0.15%) to 6.38 t/ha (De Buzău x Neemazal T/S – 0.5%). Distinct significant positive differences to the mean of experience were obtained when protecting De Buzau variety with Dipel - 0.15% (3.14 t/ha) + *Trichogramma evanescens* x 3 applications x 120,000 ex./ha (4.81 t/ha).

Table 5

The influence of the pest fighting measures on the total production (2006-2008) of autumn cabbage that is cultivated using an ecological system

Nr. crt.	Variant	Phenophasis	Damages done by cabbage fleas			Damages done by cabbage moth			Total production			
			adults (ex/pl)	GA %	sig. dif.	larvae (ex/pl)	GA %	sig. dif.	t/ha	% to mean	dif. (t/ha)	sig. dif.
1	a_1b_1	after planting	1-2	11,9	-	-	-	-	54,47	113,27	6,38	xxx
	a_1b_1	rosette	4-8	5,9	ooo	1-2	6,4	-				
	a_1b_1	binding	-	-	-	3-4	10,7	xxx				
2	a_1b_2	after planting	1-2	12,1	-	-	-	-	51,23	106,53	3,14	xxx
	a_1b_2	rosette	5-9	6,2	ooo	2-3	7,9	xxx				
	a_1b_2	binding	-	-	-	4-5	9,6	-				
3	a_1b_3	after planting	2-3	10,7	-	-	-	-	52,90	110,00	4,81	xxx
	a_1b_3	rosette	6-10	8,7	xxx	1-2	5,8	oo				
	a_1b_3	binding	-	-	-	4-5	7,9	ooo				
4	a_2b_1	after planting	1-2	12,4	x	-	-	-	47,73	99,25	-0,36	-
	a_2b_1	rosette	4-5	7,6	-	1-2	6,4	-				
	a_2b_1	binding	-	-	-	3-4	9,7	-				
5	a_2b_2	after planting	7-8	12,1	-	-	-	-	46,50	96,69	-1,59	o
	a_2b_2	rosette	5-9	10,4	xxx	1-2	7,1	-				
	a_2b_2	binding	-	-	-	5,6	10,1	xxx				
6	a_2b_3	after planting	3-4	10,8	-	-	-	-	46,13	95,92	-1,96	oo
	a_2b_3	rosette	7-10	8,2	xx	2-3	6,8	-				
	a_2b_3	binding				4,5	9,5	-				
7	a_3b_1	after planting	2-3	10,6	o	-	-	-	45,73	95,09	-2,36	ooo
	a_3b_1	rosette	7,8	6,3	ooo	1-2	6,8	-				
	a_3b_1	binding	-	-	-	3,4	8,6	ooo				

8	a_3b_2	*after planting*	*2-3*	*11,8*	-	-	-	-	*43,60*	*90,66*	*-4,49*	*ooo*
	a_3b_2	*rosette*	*10-12*	*7,1*	*o*	*1-2*	*7,3*	*x*				
	a_3b_2	*binding*	-	-		*3-4*	*9,7*	-				
9	a_3b_3	*after planting*	*3-4*	*10,7*	-	-	-	-	*44,53*	*92,59*	*-3,56*	*ooo*
	a_3b_3	*rosette*	*10-15*	*8,2*	*xx*	*2-3*	*5,6*	*ooo*				
	a_3b_3	*binding*	-	-	-	*3-4*	*10,4*	*xxx*				
x	*Media*	*after planting*	-	*11,5*	-	-	-	-	*48,09*	*100*	*0*	-
	Media	*rosette*	-	*7,6*			*6,7*	-				
	Media	*binding*	-	-	-		*9,6*	-				

Sig. dif. prod. DL5%=1,18 t/ha DL1%=1,62 t/ha, DL0,1%=2,23 t/ha

Sig. dif. GA fleas (ap) DL5%=0,90 t/ha DL1%=1,24 t/ha DL0,1%=1,70 t/ha

Sig. dif. GA fleas (r) DL5%=0,43 t/ha DL1%=0,59 t/ha DL0,1%=0,82 t/ha

Sig. dif. GA cabbage moth (r) DL5%=0,55 t/ha DL1%=0,75 t/ha DL0,1%=1,04 t/ha

Sig. dif. GA cabbage moth (b) DL5%=0,23 t/ha DL1%=0,32 t/ha DL0,1%=0,43 t/ha

Table 6

The analysis of variance for the interaction of the factors variety x pest fighting measures for autumn cabbage cultivated on ecological system

The cause of the variance	SP	GL	S^2
Total	365.7385	26	
Repetitions	2.76963	2	
Variety (A)	328.8141	2	164.407
Fertilizer type (B)	22.53852	2	11.26926
Interaction AxB	4.225926	4	1.056481
Error	7.39037	16	0.461898

CONCLUSIONS

The highest level of the total production of early crop was obtained in the case of K001 cultivar when it was used the covering system (Agril) as a defence measure (32.57 t/ha).

The total production of the summer crop varied from 32.3 t/ha (in the case of Gloria cultivar when it was used Neemazal T/S – 0.4% + 1 application x *Trichogramma evanescens* (120,000 ex./ha) to fight against the complex of pests) to 37.83 t/ha in the case of Copenhagen Market cultivar,when it was used the covering system as a defence measure + Neemazal T/S – 0.4% + 1 application x Trichogramma evanescens (120,000 ex./ha).

The total production for the autumn crop varied from 43.60 t/ha, in the case of Lares cultivar, when it was used Dipel – 0.15% to fight against the complex of pests, to 54.47 t/ha in the case of De Buzau cultivar, when it was used Neemazal T/S – 0.5% as a defence measure.

REFERENCES

1. **Călin Maria, 2005** – *Ghidul recunoaşterii şi controlului dăunătorilor plantelor legumicole cultivate în agricultură biologică.* Editura Tipoactiv, Bacău.
2. **Dalby J., Michaud M., Redman M., 1998** - *Organic certification and the importance of organically produced foods, American. Journal Agr. Econ. 80 (Number 5, 1998), pg. 1125-1129.*
3. **Jităreanu G., 1994 –** *Tehnică experimentală*. (lithographed course). University of Agricultural Sciences, Iaşi;
4. **Munteanu N., Stoian L., Stoleru V., Falticeanu M., 2008** – *Baze tehnologice ale legumiculturii ecologice*. Editura "Ion Ionescu de la Brad" Iasi.
5. **Săulescu N.A., Săulescu N.N., 1967** – *Câmpul de experienţe*, Editura Agro-Silvică, Bucureşti;
6. **Stan N., Savițchi P.**, **1979** – *Contribuții la stabilirea epocilor de plantare a verzei timpurii în adăposturi joase din polietilenă.* Hortiviticultură - Institutul Agronomic, Iaşi.