RESEARCHES ON THE RELATIONSHIP BACTERIZATION -PERIOD OF SOWING WITH EFFECTS ON THE HARVEST AND ITS QUALITY IN PEAS AND SOYBEAN

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Abstract: *The experiment was carried out within the Didactic Station of USAMVB Timisoara on a cambic chernozem slightly gleyied, slightly hyposalic and moderately hyposalty under 100 cm, slightly decarbonized on loess moderate fine deposits medium clay loam / medium clay loam. According to its composition, the soil falls within the class texture "fine textured", subclass medium clay loam, undifferentiated in profile. In the first part of the profile the soil reaction is neutral (pH 7.03-7.18) and in the second half the reaction is slightly alkaline (pH 8.25-8.49). The reserve of humus is low (62.98-75.65 t / ha) in the processed horizon and very low under 60 t / ha for the underlying horizons. Trifactorial experiments were carried out in the two cultures, in which the factor A, was represented by the cultivated variety ((for pea* ***Dosa, Montana and Monique****, for soybean* ***Felix, Neoplata and Venera****), the factor B – represented bacterized - non bacterized, and the factor C represented the sowing period with two graduations. Among the tested pea varieties Monique was the best because it had a yield of over 1950kg/ha, as compared to the experimental factors. The results obtained in the soybean culture of the Timis Plain bring out the Neoplant and Verena varieties, which had higher yields with 16% and 27% than those registered for the Felix variety. The difference in yield of 318 kg / ha, 515 kg / ha respectively, is statistically very significant. These conclusions must be verified in future years, having in view the registered climatic irregularities in 2009. The results obtained are in favour of increasing the cultivated area of the two tested leguminouse species. This relies on the assertion that for the extension of the nonpolluting technologies within the rotation of crops we have no solutions for giving up the leguminouse cultures, even if the yields are low as their economical and agricultural value make them irreplaceable.*

Key word : *bacteris, sowing time, peas, soybeans*

INTRODUCTION

Vegetables seed inoculation with bacterial strains of Rizobium specific for each species and variety, with the aim to stimulate the formation of as many of the root nodule and thereby stimulate the process of nitrogen fixation.

Research in the last decades have shown that aggression each have a specific suşere concerning each variety.

It was proved that in the nodule from the roots of leguminous plants is acumulate nitrogen through the activity of some bacteria wich are living in this nodules. Simbiosis is dependent on endogenous and exogenous factors that ensure the function and adjustment of fixed nitrogen.

It is estimated that by using this process is econmiseşte about 70% of the fertilizer applied to culture and has a beneficial effect for culture that is in turn leaving a significant amount of soil nitrogen.

MATERIAL AND METHODS

Experience has been placed on teaching the Station territory on Timişoara USAMVB cambic chernozem soil type Gleize weak hiposalic low and moderate sodium below 100 cm, low decarbonated on medium thin loess deposits, loamy clay medium / medium loamy clay.

After size composition soil textural class within the "fine textured, medium loamy clay subclass, undifferentiated profile.To characterize the climate conditions have used data from meteorological station Timisoara. In conclusion, under the climate issue, met for obtaining experimental

conditions, the cultures studied, interpreted.The two cultures were organized experiences trifactoriale the A-factor was the variety grown (from pea Dosa, Montana and Monique, the soybean Felix Neoplata and Venus), factor B - (nebacterizat and bacterizat) and factor C from sowing two graduations.

RESULTS AND DISCUSSIONS

Table 1 and Figure 1 presents results obtained in the chernozem cambic harvest in Timisoara.

Table 1

Results obtained in pea crop-Timisoara

Factorul A	Factorul B	Factorul C		Mediile factorului A			
		C1-Epoca I	C2-Epoca II	Recolta kg/ha	%	Diferența kg/ha	Semnificația
A_1 Dora	B_1-nebacterizat	1215	1010	1198	100		
	B_2- bacterizat	1443	1125				
A_2 Montana	B_1-nebacterizat	1712	1517	1132	94	-66	
	B_2- bacterizat	2020	1680				
A_3 Monique	B_1-nebacterizat	1949	1711	1952	163	754	XXX
	B_2- bacterizat	2216	1933				

DL5% = 173 kg/ha DL1% = 251 kg/ha DL 0,1% = 332 kg/ha

Mediile factorului C

Specificare	C1-Epoca I	C2-Epoca II
Recolta kg/ha	1759	1496
%	100	85
Diferența kg/ha		-263
Semnificația		0

DL5% = 181 kg/ha DL1% = 273 kg/ha DL 0,1% = 356 kg/ha

Mediile factorului B

Specificare	B_1-nebacterizat	B_2- bacterizat
Recolta kg/ha	1519	1736
%	100	114
Diferența kg/ha		217
Semnificația		XX

DL5% = 145 kg/ha DL1% = 216 kg/ha DL 0,1% = 298 kg/ha

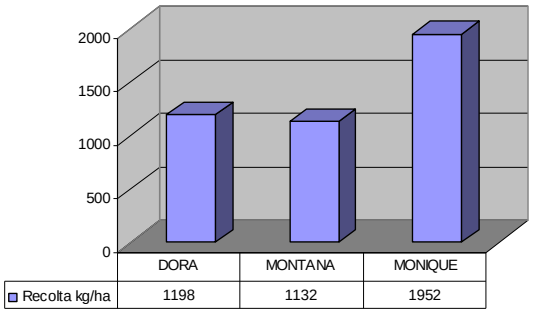

Fig. 1. Results obtained in pea harvest

Bacteria seed managed and therefore led to increased yields by 217 kg / ha significant difference in harvest separately.

Among the varieties tested Monique noted that the average experimental factors has obtained a harvest of over 1950 kg / ha.

In terms of average bacteria the three varieties and two planting dates was obtained a 14% increase in the yield difference of 217 kg / ha to be provided as separate nonbacterial significant. Late sowing of 1-20C to-40C during 3 led to lower yields of 15% returns over a

difference of 260 kg / ha significantly negative. The results obtained in the soybean crop varieties Plain Timiş Neoplata and Venus shows that yields were higher than that recorded in variety Felix with 16% and 27% respectively, the difference in harvest 318 kg / ha respectively 515 kg / ha are provided statistically very significant. Bacteria obvious influence on the average harvest factors has registering an increase of 18%, corresponding to a very significant difference in harvest over 360kg/ha.

Drill close to 25 cm in rows 50cm apart with no difference in the amount of deference harvest level of significance Table 2 and Figure 2.

Table 2

Results obtained from soybean harvest-Timisoara

Factorul A	Factorul B	Factorul C		Mediile factorului A			
		C1-Epoca I	C2-Epoca II	Recolta kg/ha	%	Diferența kg/ha	Semnificația
FELIX	B_1-nebacterizat	1812	1705	1936	100		
	B_2- bacterizat	2220	2006				
NEOPLATA	B_1-nebacterizat	2176	2008	2254	116	318	XXX
	B_2- bacterizat	2516	2315				
VENERA	B_1-nebacterizat	2308	2185	2451	127	515	XXX
	B_2- bacterizat	2771	2540				

DL5% = 171 kg/ha DL1% = 255 kg/ha DL 0,1% = 297 kg/ha

Mediile factorului C

Specificare	C1-Epoca I	C2-Epoca II
Recolta kg/ha	2301	2127
%	100	92
Diferența kg/ha		-174
Semnificația		

DL5% = 183 kg/ha DL1% = 264 kg/ha DL 0,1% = 312 kg/ha

Mediile factorului B

Specificare	B_1-nebacterizat	B_2- bacterizat
Recolta kg/ha	2032	2395
%	100	118
Diferența kg/ha		363
Semnificația		XXX

DL5% = 133 kg/ha DL1% = 162 kg/ha DL 0,1% = 218 kg/ha

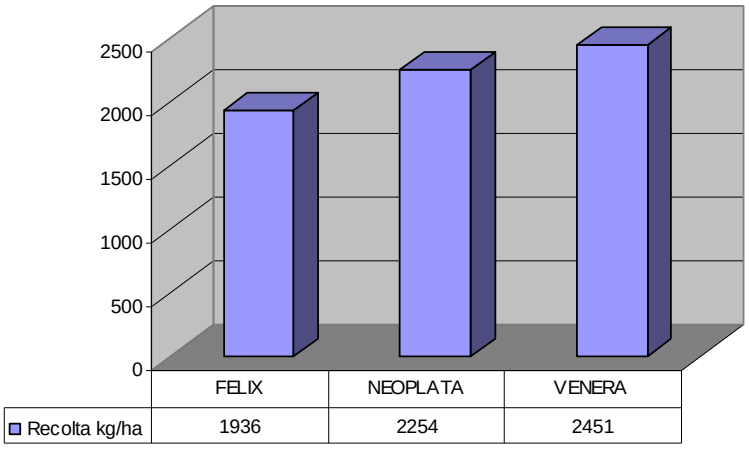

Fig. 2. Results obtained from soybean harvest

CONCLUSIONS

1. The results obtained argue in favor of increasing the areas planted two legume\species tested. In support of this idea claim that advocates for expansion of cleaner technologies, we have no solutions in rotations with legumes to be dropped, even if the yields of these species aeste lower, but their economic and agronomic value makes them irreplaceable.

2. From the pea varieties investigated in this area has become Monique variety that the other factors investigated average yield exceeded 63% Dora the control variety.

3. Bacterizarea seeds before sowing increased the yield by 14%, returning a difference in harvest of 200 kg / ha.

4. Study of soybean varieties that Venus has imposed greater variety Felix harvest was 27% returning a difference of 500 kg / ha.

5. Bacterizarea seed, averaged over three varieties increased yields by 18%.

6. Late sowing ten days decreased by 8% and yield over 170 kg / ha.

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