

PATHOGENITÄT EINIGER MAISFUSARIUMARTEN

Tabelle 1

Variante	Keimung %	Pflanzenmasse (g)		Wurzelmasse (g)		Pflanzenhöhe (cm)		Wurzellänge (cm)	
		Durchschnitt	Signifikation	Durchschnitt	Signifikation	Durchschnitt	Signifikation	Durchschnitt	Signifikation
a) autoklavierter Boden									
Fusarium roseum var. culmorum	25	0,0	-	0,25		0,62		7,0	
Fusarium roseum var. graminearum	0,0	0,0	-	0,0	000	0,0	000	0,25	000
Fusarium roseum var. arthrosporioides	87	1,87	xx	0,87	xxx	15,25	xxx	29,25	xxx
Fusarium moniliforme	50	0,87	-	0,62	xxx	7,5	xxx	13,37	xxx
Fusariengemisch	87	2,75	xxx	1,25	xxx	17,75	xxx	32,87	xxx
Fusarium solani	87	1,87	xx	1,00	xxx	13,75	xxx	27,75	xxx
		DL(5%)=1,10 DL(1%)=1,53 DL(0,1%)=2,11		DL(5%)=0,08 DL(1%)=0,11 DL(0,1%)=0,16		DL(4%)=0,14 DL(1%)=0,20 DL(0,1%)=0,28		DL(5%)=2,44 DL(1%)=3,39 DL(0,1%)=4,68	
a) unautoklavierter Boden									
Fusarium roseum var. culmorum	75	0,50		0,33		5,25		2,75	
Fusarium roseum var. graminearum	87	1,42	xxx	1,00	xxx	13,12	xxx	13,12	xxx
Fusarium roseum var. arthrosporioides	100	2,88	xxx	1,37	xxx	21,00	xxx	21,00	xxx
Fusarium moniliforme	87	3,85	xxx	2,14	xxx	24,87	xxx	34,37	xxx
Fusariengemisch	87	4,00	xxx	1,84	xxx	26,37	xxx	32,25	xxx
Fusarium solani	100	4,12	xxx	1,62	xxx	27,12	xxx	41,87	xxx
		DL(5%)=0,06 DL(1%)=0,08 DL(0,1%)=0,12		DL(5%)=0,08 DL(1%)=0,11 DL(0,1%)=0,16		DL(5%)=0,06 DL(1%)=0,08 DL(0,1%)=0,12		DL(5%)=0,27 DL(1%)=0,38 DL(0,1%)=0,52	

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A COMPARATIVE STUDY IN THE FERTILITY OF TRIFOLIUM PRATENSE L. SELECT 1 VARIETY IN RELATION TO CULTURE SYSTEM

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The importance of red clover as forage crop is well known by now. A great attention is being paid, in various countries, to the study of those factors which influence the seed-set of this plant.

The present work deals with one of the factors, namely the influence of culture system on seed-set. In a comparative study we have tested the seed-set capacity of "Select-1" variety of red clover (4) in relation to the culture system (out distanced and common system), and the year of harvest of the seed producers - during the first or second year of vegetation.

Thus, there were done the following observations: the number of offshoots per plant, the number of branches per offshoot, the number of capitula (heads) per plant, the number of flowers per capitulum, the number of seed per capitulum, in both the first and the second year of vegetation.

The factors which were studied are as follows:

Factor A: The year of seed-producer harvest

a₁ - first year of vegetation

a₂ - second year of vegetation

Factor B: The sowing

b₁ - 20 kg/ha 15 cm between the rows

b₂ - 16 kg/ha 15 cm between the rows

b₃ - 10 kg/ha 30 cm between the rows

b₄ - 5 kg/ha 45 cm between the rows

b₅ - 2,5 kg/ha 60 cm between the rows

The experiments were carried out within our Botanical Garden, that is, in the forage crops section.

The observation were done at harvest-time, when the capitula (flower-heads) reached the light-brown colour stage.

Table 1
The influence of the sowing system and year of harvest on the factors of seed-set capacity

Variant	Average number of offshoots per plant		Average no. of branches on main offshoots		Average number of heads per plant		Average number of flowers per head		The rate of seed-setting	
	I	II	I	II	I	II	I	II	I	II
20 kg/ha 15 cm	14,3	30,1	2,2	2,6	41,5	42,6	78,3	89,5	39,5	40,5
16 kg/ha 15 cm	15,5	31,5	2,5	2,7	43,2	44,3	92,5	95,1	44,8	46,2
10 kg/ha 30 cm	16,7	32,2	2,9	3,5	48,1	45,1	115,4	106,3	57,0	54,3
5 kg/ha 45 cm	18,9	35,0	4,2	2,8	52,3	47,6	119,3	117,7	60,1	58,6
2,5 kg/ha 60 cm	20,1	35,2	3,2	5,0	55,7	49,8	125,7	119,3	63,4	61,4

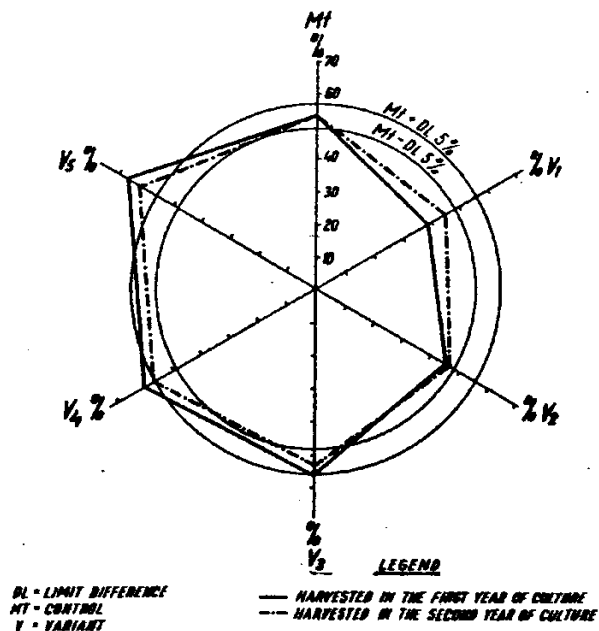


Fig. 1. The average rate of seed-setting per head in relation to the culture system

data (four replicates per variant) were processed by means of the variance-analysis method.

The results presented in Table 1 and Fig. 1 indicate that both the year of harvest and sowing-distance, and the sowing as well, exercise a large influence on the studied factors of seed-set capacity. The variation of these factors are largely influenced by the sowing and sowing-distance. Thus, it may be asserted that there were obtained significant differences with all studied factors, in the case when there were used smaller seed quantities - that is, 5 or 2,5 kilos per hectare sown at 45 and 60 cm distance between rows, in both harvest years.

Inasmuch as the harvest year is concerned, there has been established that in the variants sown at larger distance, the productivity factors are higher with seed-producers harvested during first year of vegetation; the exception is in the average number of offshoots per plant which is higher in the second year of vegetation.

We may conclude that the number of offshoots per plant, the number of branches per offshoot, the number of heads (capitula) per plant, the number of flowers per capitulum, and the number of seeds/capitulum represent those factors which determine, to a greater extent, the seed-set capacity of red clover. Besides the genetic traits of the "Select 1" variety, it is believed that the culture system has an important role in the evolution of the factors of seed-set capacity. Based on the present results it is recommended, in order to stimulate the seed-yield, to sow at 45 or 60 cm between the rows. In case of emergency the seed should be harvested in the 1-st year of culture, in which case the crop may be even larger than in the second one. In order to prevent a possible decrease in plant perenity, it is suggested to avoid the use of this technique for several years.

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QUELQUES PARTICULARITÉS MORPHO-BIOLOGIQUES DU HOUBLON
 (HUMULUS LUPULUS L.) CULTIVÉ DANS LA ZONE DE CLUJ

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Le houblon est l'une des plantes avec une grande plasticité biologique présentant, en fonction de l'acclimatation, différentes particularités morphologiques, anatomiques et fonctionnelles (1, 2, 3, 6).

Bien que le houblon soit cultivé depuis très longtemps dans notre pays les études scientifiques portant sur la morphobiologie sont peu nombreuses (4, 5).

Dans cette étude sont présentés les résultats de certaines recherches portant sur la structure morpho-biologique des sortes de houblon, comparativement aux sortes plus valeureuses en culture à la Station expérimentale de l'Institut agronomique de Cluj-Napoca.

Matériel et méthode

En 1977, on a étudié un nombre de neuf sortes de houblon qui se trouvaient en quatrième année de végétation. Chez ces sortes on a mesuré les composants morphologiques: feuilles, tiges principales, rameaux secondaires et on a déterminé la production et la qualité des cônes. Ces déterminations ont porté sur 50 plantes de chaque sorte.

Résultats et discussions

Les résultats des déterminations sont présentés dans les tableaux 1, 2, 3, 4 et 5.

La sorte Northern Brewer, tableau 1, présente le plus grand nombre des ramifications fertiles, tandis que les sortes Record et Northern Brewer présentent respectivement le plus grand nombre d'étage. La sorte Brewers Gold présente les plus longues ramifications latérales, suivi de sortes Early Cluster et Sunshine.

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