EXPRESSION OF MORPHOLOGICAL CHARACTERS AT FOURVARIETES OF MEDICAGO SATIVA UNDER SPECIFIC GROWING WESTERN PLAIN

FAUR F., HORABLAGA N. M., Adina HORABLAGA, COSTEA B.

Banat's University of Agricultural Sciences and Veterinary Medicine Timisoara
Faculty of Agriculture
Corresponding author: hnm75@yahoo.com

Abstract: *The alfalfa yield for fodder is the result of interaction of the hereditary features of plants and the condition of vegetation. In our paper we present the study of some valuable provenances of alfalfa that could be extended in culture in Banat's Plain. The average for the three years dry matter production ranged from 10.11 t / ha for Selena PB I and 14.14 t / ha at the origin F -64- 92. This difference of 4.03 t / ha of dry matter appears that the parted portions genotypes are based on their production potential , under certain climatic conditions.*

Key words: alfalfa, green mass yield.

INTRODUCTION

The alfalfa forage production is the result of interaction between all the hereditary traits of plants and vegetation conditions. (4)

Alfalfa is a plant highly appreciated due to its possible use for multiple purposes but its use as a forage crop ranks first in importance. Superiority over other forage alfalfa is explained primarily by the high yields of forage, fodder through high quality product and its ability to produce for many years without being reseeded. (4)

In this paper we propose to study some valuable provenances could be expanded in culture in the west of the country.

MATERIAL AND METHOD

We have studied a comparative crop alfalfa genotypes 13 value, 6 and 7 varieties Romanian origins Lovrin created and studied for many years.

The research was conducted in the climatic conditions of the West Plains in 2010-2012 (years I-III production).

The experiments were performed in Timisoara USAMVB on chernozem soil type saline, low gleyed pH-7, 2, well supplied with humus.

Method of settlement experiences was randomized blocks in three replications. Plot area was 12 m2.

RESULTS AND DISCUSSION

In 2008 (the fall) was established alfalfa comparative culture consists of 13 backgrounds , with the control variety Adonis I. East SPB occurred 8-10 days after sowing, uniform and with a density of 498-509 plants/m2 forage crop . Loss of plants during the winter are small , less than 7 % , with no significant differences between the varieties.

Distribution of the stitch in the first year of production is shown in Figure 1.

Mass production of green at first I was sewing in between 16.07 t / ha (12-96 F) and 23.55 t / ha (variety Sigma) to sew the second between 13.54 t / ha (genotype F 812-96) and 17.85 t / ha (genotype F 64-92), and a third sewing yields were between 5.70 t / ha 7.10 t / ha .

Mass production green lucerniera freshmen ranged from 36.18 t / ha (genotype F 812-96) and 46.53 t / ha Selena PB I. Note that five genotypes of green mass production exceeds output control (Adonis SPB I - 43.3 t / ha).

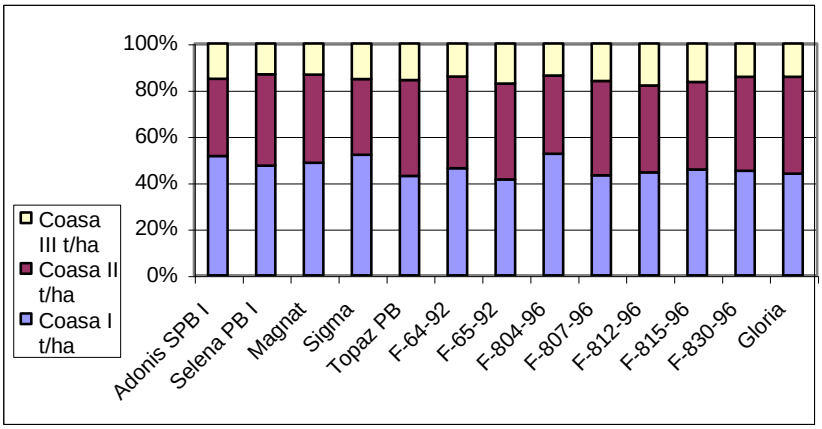

Fig.1. Production origins in stitch in the first year of production

In the second year were obtained four sew climatic conditions favoring alfalfa crop this year. Mass production of green alfalfa second year is shown in table 1.

Table 1

Mass production of green alfalfa crop the second year comparative

Nr. Crt.	Soiul	Coasa I			Coasa II			Coasa III			Coasa IV			Producţia totală			
		t/ ha	%	Dif.	t/ ha	%	dif	t/ ha	%	Dif.	t/ ha	%	Dif.	t/ ha	%	Dif.	Sem.
1	Adonis SPB I	32,32	100	0	21,75	100	0	19,72	100	0	5,95	100	0	79,74	100	0	-
2	Selena PB I	34,32	106	2	22,62	104	0,87	21,57	109	1,85	7,45	125	1,5	85,96	107	6,22	-
3	Magnat	32,57	101	0,25	22,75	100	0	21,37	108	1,65	6,87	115	0,92	83,56	104	3,82	-
4	Sigma	34,55	107	2,23	23,65	108	1,90	20,77	105	1,05	7,3	122	1,35	86,27	108	6,53	-
5	Topaz PB	28,95	89	-3,37	21,57	99	-0,18	18,77	95	-0,95	6,3	105	0,35	75,59	94	-4,15	-
6	F-64-92	33,47	103	1,15	25,35	116	3,60	21,77	107	2	8,12	135	2,17	88,71	111	8,97	-
7	F-65-92	32,20	99	-0,12	23,22	106	1,47	21,62	109	1,9	7,85	131	1,9	84,87	106	5,13	X
8	F-804-96	34,77	107	2,45	21,55	99	-0,2	20,92	106	1,2	8,55	143	2,6	85,79	107	6,05	-
9	F-807-96	35,02	99	-0,27	22,92	105	1,17	21,1	106	1,38	10,07	169	4,12	89,11	111	9,37	-
10	F-812-96	35,37	109	3,05	23,40	107	1,65	20,7	104	0,98	8,75	147	2,8	88,22	110	8,48	X
11	F-815-96	32,35	100	0,03	21,55	99	-0,2	23,22	117	3,5	8,87	149	2,92	85,99	107	6,25	-
12	F-830-96	34,62	107	2,30	18,02	82	-3,73	20,32	103	0,6	8,27	138	2,32	81,23	101	1,49	-
13	Gloria	32,40	100	0,08	21,95	100	0,2	24,87	126	5,15	8,8	147	2,85	88,02	110	8,28	X
DL 5%				4,07			4,12			3,99			1,86			7,74	
1%				5,46			5,22			5,35			2,49			10,37	
0,1%				7,20			7,28			7,06			3,29			13,69	

Table 2

Mass production of green alfalfa crop year comparative III

Nr. Crt.	Soiul	Coasa I			Coasa II			Coasa III			Producţia totală			
		t/ ha	%	Dif.	t/ ha	%	dif	t/ ha	%	Dif.	t/ ha	%	Dif.	Sem.
1	Adonis SPB I	20,1	100	0	14,8	100	0	7,1	100	0	42,0	100	0	-
2	Selena PB I	18,5	92	-1,6	14,0	95	-0,8	7,1	100	0	39,6	94	-2,4	-
3	Magnat	20,9	104	0,8	17,1	115	2,3	7,4	104	0,3	45,4	108	3,4	-
4	Sigma	18,9	94	-1,2	16,5	111	1,7	5,9	83	-1,2	41,3	98	-0,7	-
5	Topaz PB	16,4	82	-3,7	15,1	102	0,3	6,5	91	-0,6	38,0	90	-4,0	-
6	F-64-92	19,6	97	-0,5	15,9	107	1,1	7,4	104	0,3	42,9	102	0,9	-
7	F-65-92	17,8	88	-2,3	16,2	109	1,4	7,0	99	-0,1	41,0	98	-1,0	-
8	F-804-96	21,5	107	1,4	16,5	111	1,7	6,9	97	-0,2	44,9	107	2,9	-
9	F-807-96	20,2	100	0,1	16,4	111	1,6	7,4	104	0,3	44,0	105	2,0	-
10	F-812-96	18,8	93	-1,3	15,7	106	0,9	6,3	89	-0,8	40,8	97	-1,2	-
11	F-815-96	19,6	97	-0,5	15,3	103	0,5	7,3	103	0,2	42,2	100	0,2	-
12	F-830-96	18,8	93	-1,3	14,8	100	0	7,6	107	0,3	41,2	98	-0,8	-
13	Gloria	21,1	105	1,0	16,1	109	1,3	6,4	90	-0,7	43,6	104	1,6	-
DL	5%		3,42			2,0			1,12			4,66		
	1%		4,58			2,68			1,50			5,97		
	0,1%		6,05			3,54			1,98			7,88		

I scythe production represents about 41 % of the total - the maximum being recorded genotype F 807-96 (35.02 t / ha mv)

Scythe second represents about 26 % of total production , production of green mass biggest being 25.35 t / ha mv registered with the genotype F -64- 92. Sewing three alfalfa genotypes exceed the witness Adonis SPB I (19.72 t / ha mv) .

Scythe fourth represents 8-10% of total production yields ranging from 5.95 t/ha (SPB Adonis I) and 10.07 t / ha (the F- 807-96) .

In III obtained the highest yields of alfalfa production exceeding 80 t / ha mv in most genotypes .

2013 was a dry year making alfalfa yields are much lower. Compared to the previous year . From Table 2 . it can be seen that the yields do not exceed 44 t / ha mv , with one exception - the variety Magnat that production is 45.4 t / ha . Production highest first sewing recorded a 804-96 genotype F (21.5 t / ha) to sew the second highest production was 17.1 t / ha (Magnat genotype) and the third scythe maximum yield was 7.6 t / ha in genotype F 830-96.

Table 3

Production of feed dry matter alfalfa comparative culture

Nr.crt.	Soiul/Cultivar	Anul I, 1998 t/ha	Anul II, 1999, t/ha	Anul III, 2000 t/ha	Media1998-2000 t/ha
1	Adonis SPB I	8,65	18,52	13,23	13,46
2	Selena PB I	9,19	19,95	12,19	10,11
3	Magnat	8,42	19,51	13,26	13,73
4	Sigma	8,99	20,04	13,11	14,04
5	Topaz PB	8,38	17,73	11,84	12,65
6	F-64-92	9,01	20,4	13,03	14,14
7	F-65-92	7,59	20,09	11,41	13,04
8	F-804-96	8,43	19,69	12,86	13,66
9	F-807-96	8,81	20,14	12,26	13,73
10	F-812-96	7,25	20,3	11,50	13,01
11	F-815-96	8,22	20,29	12,01	13,50
12	F-830-96	9,18	18,43	11,73	13,11
13	Gloria	8,83	19,8	12,01	13,54
	Media anilor	9,90	16,90	12,34	13,04

The data in Table 3 . present production of dry fodder crop alfalfa comparative . The 13 genotypes were produced on average 9.90 t / ha dry matter in the first year of vegetation in unirrigated crop , sown in the previous autumn, 16.90 t / ha in the second year of vegetation a favorable climate and 12.34 t / ha in the third year of vegetation , a less favorable year . The average for the three years dry matter production ranged from 10.11 t / ha for Selena PB I and 14.14 t / ha at the origin F -64- 92. This difference of 4.03 t / ha of dry matter appears that the parted portions genotypes are based on their production potential , under certain climatic conditions.

CONCLUSIONS

From the study of 13 alfalfa varieties and provenances for three years following conclusions:

- Environmental factors greatly influence production from one year to another , the number and percentage of dry sew;
- Recommended for Banat Plain genotypes : Magnat, Sigma , Gloria.

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