

THE EXPERIMENTAL RESULTS REGARDING THE INFLUENCE OF THE COMPOST AND OF THE AMENDMENTS TO THE TEMPORARY MEADOWS FROM SCDA ȘIMNIC

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ABSTRACT

Both the simple mixture of graminaceae and pulverize and the complex react very weel both to the organic fertilization and the chimical one with nitrogen.

The amount of the crop obtained in the mictures with organic fertilization, with oxidat between 1,3 – 2,1 t/m d.s. at the

simple mixture and 1,8 – 2,6 t/ha d.s. in the case of the complex mixture of nitrogen. The nitrogenous, too has substantially contributed to the encreasing of the crop, ensuaring a growth of over 3,6 t/ha d.s. (N₁₂₀) at the simple mixture, respectively over 5,4 t/ha d.s. (N₁₂₀) at the complex mixture.

INTRODUCTION

The graminaceae and the perennial pulverize are to be remarked by great nutritive elements (Bărbulescu C. And collab. 1991).

At the perennial pulverize the necessary Nitrogen is produced in a biological way, but it is also taken from the soil, from the applied fertilizer while

with the perennial graminaceae the nutrition source is almost completely/exclusively represented by the soil reserves, and the fertilizer and the used amendaments as well. (Moga I. and collab. 1983; Pop M – 1984, Simtea N. 1984, Cotigă C. 2012).

MATERIAL AND METHOD

The searches have been made on the luvosoil from SCDA Șimnic in 2016. The searched (studied) factors were:
A factor = the type of mixture with 2 doses

a₁ = simple mixture (Dactylis glomerata 60 % + Medicago sativa 40 %)

a₂ = complex mixture (Dactylis glomerata 30 % + Festuca pratensis 15 % + Lolium perenne 15 % + Medicago sativa 40 %)

B factor = agrofond with 3 doses

b₁ = CaCO₃ 3,6 t/ha

b₂ = compost 20 t/ha + CaCO₃ 3 t/ha

C factor = Nitrogen dozes, with 4 doses

C₁ = N₀; C₂ = N₇₅; C₃ = N₁₅₀; C₄ = N₂₂₅

The biological supplies (material) was procured from INCDA Fundulea. The harvest was made mecanical, keeping in mind all the rules of the experimental field.

RESULTS AND DISCUSSIONS

If the obtained results are analysed and presented in the table 1 referring to the interaction simple mixture x agrofond

we find out that according to this, the crop had values between 4,3 – 6,4 t/ha d.s.

Table 1

The effect of the interaction: simple mixture x agrofond upon the crop of dried substance at the temporary meadow on luvosoil at SCDA Șimnic (I year 2016)

The interaction simple mixture agrofond		The absolute crop t/ha d.s.	The relative crop %	Dif.	Semnific.
Dactylis glomerata 60 % Medicago sativa 40 %	CaCO ₃ 6 t/ha	4,3	100	Mt	-
	Compost 40 t/ha	6,0	140	1,3	xx
	Compost 20 t/ha CaCO ₃ 5 t/ha	6,4	149	2,1	xxx

DL 5 %

DL 1 %

DL 0,1 %

0,4 t/ha d.s.

0,7 t/ha d.s.

1,5 t/ha d.s.

The maximum crop of 6,4 t/ha was obtained at the organic agrofond 20 t/ha + CaCO₃ 3 t/ha and the extra quantity was 2,1 t/ha d.s. – which was significantly.

A very significant quantity (out put) of 1,3 t/ha was obtained at the fertilization of compost s.u. 40 t/ha.

Regarding the complex mixture, and according to the agrofond used (table 2) the crop of dried substance had values between 6,3 – 8,9 t/ha d.s.

Table 2

The effect of the interaction: complex mixture x agrofond upon the crop of dried substance at the temporary meadow on luvosoil at SCDA Șimnic (I year 2016)

The interaction simple mixture agrofond		The absolute crop t/ha d.s.	The relative crop %	Dif.	Semnific.
Dactylis glomerata 30 %	CaCO ₃ 6 t/ha	6,3	100	Mt	-
	Compost 40 t/ha	8,1	129	1,8	xxx
Festuca pratensis 15 % Lolium perenne 15 % Medicago sativa 40 %	Compost 20 t/ha CaCO ₃ 3 t/ha	6,9	141	2,6	xxx

DL 5 %

DL 1 %

DL 0,1 %

0,5 t/ha d.s.

0,9 t/ha d.s.

1,7 t/ha d.s.

The maximum crop of 6,4 t/ha was obtained at the organic agrofond

The maximum crop growth was 2,6 t/ha s.u. – a very significant one which

was given by the organic agrofond 20 t/ha + CaCO₃, 3 t/ha.

If we refer to the interaction, simple mixture x Nitrogen, we find that (table 3)

according to the doze of Nitrogen studied, the crop had values between 3,3 – 7,4 t/ha d.s. and the maximum grows of 4,1 t/ha d.s. very significant being obtained at

the maximum doze of Nitrogen (N_{180}). A growth of crop was also very significant and was got at the maximum doze of Nitrogen₁₂₀, 3,6 t/ha s.u.

Table 3

The effect of the interaction: simple mixture x agrofond upon the crop of dried substance at the temporary meadow on luvosoil at SCDA Șimnic (I year 2016)

The interaction simple x Nitrogen		The absolute crop t/ha d.s.	The relative crop %	Dif.	Semnific.
Dactylis glomerata 60 % Medicago sativa 40 %	N_0	3,3	100	Mt	-
	N_{60}	4,6	139	1,3	x
	N_{120}	6,9	209	3,6	xxx
	N_{180}	7,4	221	4,1	xxx

DL 5 %

DL 1 %

DL 0,1 %

1,1 t/ha d.s.

2,3 t/ha d.s.

3,2 t/ha d.s.

The maximum crop of 6,4 t/ha was obtained at the organic agrofond

The biomass crop, a complex mixture x Nitrogen (table 4) had values of 4,2 – 9,9 t/ha d.s. with a maximum growth

of 5,7 t/ha d.s. (N_{180}) – a very significant one.

A very important growth of crop of 5,4 t/ha was obtained at the fertilisation with a doze of Nitrogen a smaller one, N_{120} respectively.

Table 4

The effect of the interaction: complex mixture x agrofond upon the crop of dried substance at the temporary meadow on luvosoil at SCDA Șimnic (I year 2016)

The interaction simple x Nitrogen		The absolute crop t/ha d.s.	The relative crop %	Dif.	Semnific.
Dactylis glomerata 30 % Festuca pratensis 15 % Lolium perenne 15 % Medicago sativa 40 %	N_0	4,2	100	Mt	-
	N_{60}	7,1	169	2,9	x
	N_{120}	9,6	220	5,4	xxx
	N_{180}	9,9	236	5,7	xxx

DL 5 %

DL 1 %

DL 0,1 %

1,4 t/ha d.s.

2,7 t/ha d.s.

4,1 t/ha d.s.

CONCLUSIONS

According to the presented and obtained results, we can conclude:

- the ecopedologic conditions from the searched zone offer the possibility of making temporary grassland (meadows) based on the complex mixture.

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- the organic fertilisation of the grasslands contribute greatly to a better botanic composition.

- the fertilisation with nitrogen (N_{120}) give better crops of fodder and energo-proteic balanced.

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