

Influence of fertilization and density on production of spring oats variety Jeremy

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Abstract Research conducted in 2009 come to spring oats argue the importance of culture in the west of Romania. The results are in direct line with growing applied technology. Fertilization thus directly affect the level of production output varied between 23, 50 q / ha ($V_6 N_{120}P_{60}K_{60}$) and 11, 50 q / ha (V_1 -fertilization).

Key words

culture, variant, variety, fertilizer production

The importance lies in the fact that oats oat grains are a valuable feed horses being used in feeding, breeding, youth, dairy cows, poultry, legume and mixed with a mash made a spring of very good quality.

The investigations conducted so far shows that leverages Spring oats best nitrogen fertilizers.

In the last four decades, interest has gradually decreased oats crop is grown only on very small plots of land from agricultural units. We have to make par excellence with an extraordinary situation: a plant - oats - is ignored for that very one which is growing - the horse - and he was ignored, with the emergence and development of the machine. (1)

The research was conducted in 2009 in Timișoara Teaching Station and followed the influence of density and fertilization on crop production in spring oat variety, Jeremy. We used in the experiment, NPK fertilizers, micronutrients, a bio-stimulator with nonionic surfactant and Agzyme and Pervaide dissimulating-dose combination of these.

Through the use of and therefore the use of these fertilizers, we followed density culture of oats and spring production (2, 3, 4.).

Material and Method

Research has aimed knowledge production as a result of differences in density and fertilizer applied. He cultivated spring oat variety Jeremy. Experience is manufactories type, placed after the method storey blocks, type 9 variants, with four repetitions, having an area of 10 / 7m each variant (6). Soil is placed on a mold to the bill, glazed weak. Groundwater is at 2, 5-3 m, so that the groundwater contribution is weak.

The variety was approved in 2002 to Lovrin Research Station. It is characterized by the following peculiarity: the germination of oat grains form three roots, large grains can give rise to a greater number of embryonic roots. It forms a very deep root system and

developed. From the ground is less demanding than other varieties (5, 7).

Fertilizers were used with the following graduations: V_1 -fertilization; V_2 - manure -30 t / ha; V_3 - $N_{45}P_{45}K_{45}$; V_4 - $N_{60}P_{60}K_{60}$, V_5 - $N_{90}P_{60}K_{60}$; V_6 - $N_{120}P_{60}K_{60}$; V_7 - Agzyme 1/ha; V_8 - Pervaide; V_9 - Agzme + Pervaide. Agzyme- is dissimulating with micronutrients. It is a complex of bacterial and fungal enzymes with micro and natural extracts. These organic enzymes derived from a fermentation process, proteins act as catalysts in order to regulate the rate of chemical reactions involved in the metabolism of micro-organisms living in soil.

Composition: 99% bacterial and fungal enzymes, -0,10% iron, boron, 0,02% -0,05% manganese, cobalt -0,005% -0,0005% molybdenum, copper -0,05% ; -0,05% zinc.

Pervade-ionic is surfactant and bio-stimulator. It is a complex consisting of a nonionic surfactant concentration of soil penetrates agents anti crustier / compaction, enzymes and stimulators. Using a polymer Pervaide dose of 2 l / ha, increasing the percentage of stabile soil.

Chemical composition of bacterial and fungal enzymes -65.5% compaction agents and anti crustier - 33,0% polymer soil stabilizers -0,09% -0,03% natural chelating agents, 0,03% stabilizer system.

Results

After harvesting oats in the spring of 2009 unfertilized variant was obtained a quantity of 11, 50 q / ha. At the other extreme maximum $N_{120}P_{60}K_{60}$ variant was obtained, where production was 23, 50 q / ha with

a production increase of 12 q / ha from fertilized variant (Table 1).

Table 1

Influence of fertilizers on crop production in spring oats variety Lovrin 1

Variant	Absolute Production (q/ha)	Relative Production (%)	Output gap relative to the control (q/ha)	Significance of difference
V ₁ -Unfertilized	11,50	0,00	Mt.	-
V ₂ -Manure	16,05	139,57	4,55	X
V ₃ -N ₄₅ P ₄₅ K ₄₅	20,11	174,87	8,61	XX
V ₈ -Pervaide	21,16	184,00	9,66	XX
V ₄ -N ₆₀ P ₆₀ K ₆₀	22	191,30	10,50	XX
V ₇ -Agzyme	22,10	192,17	10,60	XX
V ₉ -Agzyme + Pervaide	22,32	194,09	10,82	XX
V ₅ -N ₉₀ P ₆₀ K ₆₀	22,95	199,57	11,45	XXX
V ₆ -N ₁₂₀ P ₆₀ K ₆₀	23,50	204,35	12	XXX

DL_{5%} = 6, 35 q/ha

DL_{1%} = 8, 36 q/ha

DL_{0, 1%} = 11, 27 q/h

If the production version N₄₅P₄₅K₄₅ 20, 11 q ha was a difference with the unfertilized variant of 8, 61 q productions is significantly distinct from the witness. The production version has been treated with Agzyme level of 21, 90 q / ha to 10,60 q is higher than in control variant and 1, 44 q lower than the V₆ version which was recorded the highest production.

In the variant treated with Pervaide production amounted to 21,16 q / ha compared with the variant were combined with Pervaide Agzyme where production reached 22,32 q / ha with a production increase of 10,82 compared to the control q. Analyzing variants N₄₅P₄₅K₄₅, N₆₀P₆₀K₆₀, variant Agzyme treated,

treated with Pervaide version and version have been combined with Pervaide Agzyme, production increases ranged between 8,61 q - 1082 q distinct recording significant differences compared with controls.

In N₉₀P₆₀K₆₀ version, with a production of 22, 95 q / ha, and in a production version N₁₂₀P₆₀K₆₀ 23, 50 q / ha recorded differences are very significant to the positive control.

Production recorded relative values between 100, 00% (the variant fertilized) and 205, 64% (the variant fertilized N₁₂₀P₆₀K₆₀).

Analyzing Figure 1 can be observed in comparison with yield relative yields for each variant.

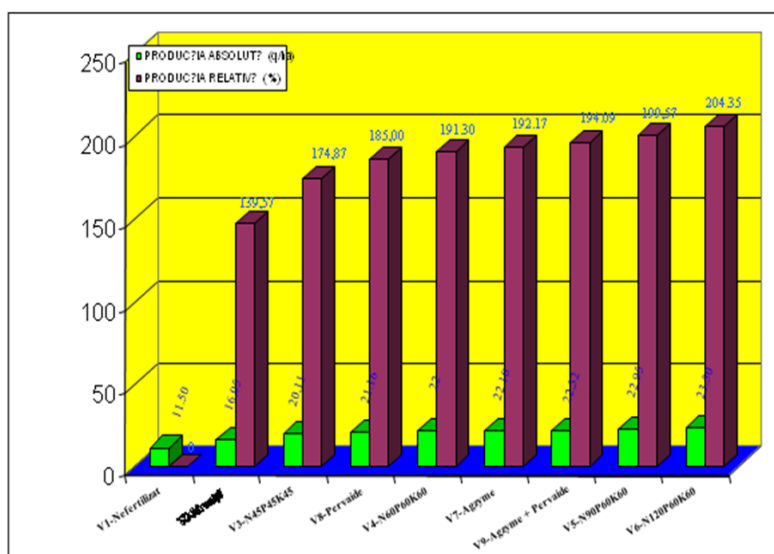


Figure 1. Absolute production and relative production of spring oats variety Jeremy.

Conclusions

In terms of 2009 were favorable climate cultures of spring oats. Following research is apparent that the variant fertilized with the highest amount of nitrogen to obtain the best quantitative results. It works in winter and very good soil seedbed in spring training was not necessary application of herbicides.

In the variant treated with Agzyme Pervaide production is combined with 22, 32 q / ha which is higher than when using only a single product as the variant Pervaide with 21, 16 q / ha or variant Agzyme, 22, 10 q / ha.

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