

RESEARCH ON THE RELATIONSHIP VARIETY FERTILIZATION ON PRODUCTION OF TRITICALE (*Triticosecale Wittmack*) UNDER THE RĂCĂȘDIA

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Abstract: Cereals (wheat, triticale, rye, barley, oats, corn, sorghum, millet, rice, etc.) represents the group of plants growing importance to human existence and activity. They are irreplaceable in human food and animal feed due to the chemical composition of grains containing: carbohydrates (60%), protein substances (10-16%), minerals, fats, vitamins. Grain foods can be consumed daily is appropriate and appreciated the human body needs both in terms of taste and nutrition of their value. Cereals are widely used in many industry goods food: bread and pasta (wheat, triticale, rye, etc.). Invented the manufacture of sugar and vegetable oil (corn) preparation of juices and sweet substances (sorghum) production meal, millet flakes and barley (millet, barley, oats, etc.). Manufacture of starches (wheat, rice, corn, etc.) canning (rice) production of glucose, dextrin (wheat, corn, etc.). Cereal grains is the raw material and for other industries such as alcoholic beverages industry (manufacture of spirits and beer from maize, triticale, barley, rice, etc.), pharmaceuticals (the manufacture of scleroși antihemoragice substances obtained from the rye fungus *Claviceps purpurea* of some medicines rice, etc.). Straw (stems) are used in cereals straw pulp and paper industry, in small industry (knitting) and other manufacturing activities. Cereals are the main raw material for production of meat, milk and eggs. No concentrate feed intake can not be deprived of corn, oats, barley, etc. triticale. The most effective succulent forage is obtained from corn, even feed fibers are made up of a cereal mash straw. As occupation, cultivation of cereals (especially straw) technology is simple, requires no special systems for cars, is mechanized and efficient (lower cost cernd). Cereals are important in terms of plant growing: there are good and very good preceding crops, enrich the soil by stimulating processes of nitrification (by harvesting early grain straw) protects the land against soil erosion in hilly areas if seeding be made on contour direction, recover the land on which other

cultures are not productive (triticale). As a general rule, triticale combines the high potential of wheat production and quality with disease resistance and tolerance to environmental factors stepchildren (including soil) from rye. Due to advances in genetic improvement of triticale varieties have been developed commercially viable (the production potential and high stability) competitive with other cereals and even corn, especially for hilly areas with infertile soils and low pH. New varieties of triticale are equal or superior to other cultures for grain yield, forage and biomass production for human food, animal feed or industrial applications. As important as forage crop triticale is used mainly in feed concentrate monogastric food (pigs and poultry) due to its higher that of other cereals in protein, lysine and tryptophan and high carbohydrate digestibility and protein substances. Recent research shows that protein energy ratio is generally higher when obtained from forage triticale forage than the traditional focus. Triticale protein has higher value as that of wheat, being rich in potassium, phosphorus, sodium, magnesium and zinc. From this conclusion it is necessary and an adaptation of the milling and bakery industry, is noted for processing triticelei that all techniques used to date have been made for wheat. Triticale grains have a composition that allows their use in the production of malt for brewing beans triticale quality. Din extract alcohol can be done in the average 400 l/t grain. Experience has been located in specific climatic conditions Răcășdia commune, Caras Severin, on a brown ground, I-mezogleizat moderate slope deposits formed from decomposition and alteration of basic metamorphic rocks. Experience is bifactorial type, so that the annual. Repeat the cycle terminates the experimental field we have experience in first year, second year and third year. Biological material have been used varieties: Cascade, Haiduc, TITAN, Style, Gorun. Mineral fertilizers applied to crop triticale, increased grain production. Variation in grain production in triticale (*Triticosecale*

Wittmack) vary depending on variety and the influence of fertilization. The results of this study are part of a doctoral program, with as theme: "Research on crop production potential of triticale (Triticosecale Wittmack)" funded by the Ministry of Education Youth and Sports Research by IOD U.S.A.M.V.B. Timisoara under the distinguished university professor Valeriu Tabara.

Key words: *triticale, variety, fertilization, production.*

INTRODUCTION

Although triticale species had a short development being created by a man recently became an important cereal in the world occupying about 4 million ha, of which over 70% in Europe. New varieties of triticale are equal or superior to other cultures for grain yield, forage and biomass production for human food, animal feed or industrial applications. Cereal grains for feeding humanity provides 55-60% of total calories consumed, 60% protein, 15% from fat and 70% from carbohydrates. In human nutrition it provides over 90% of calories from 30 species of cultivated plants. Products food grains can be consumed daily is appropriate and appreciated the human body needs both in terms of taste and nutrition of their value. Cereal grains is the raw material for other industries such as alcoholic beverages industry (manufacture of spirits and beer from maize, triticale, barley, rice, etc.), pharmaceuticals (the manufacture of scleroții antihemoragice substances produced by the fungus *Claviceps purpurea* rye, rice, etc. of drugs). Straw (stems) are used in cereals straw pulp and paper industry, in small industry (knitting) and other manufacturing activities.

Cereals are the main raw material for production of meat, milk and eggs. No concentrate feed intake can not be deprived of corn, oats, barley, etc. triticale The most effective succulent forage is obtained from corn, even feed fibers are made up of a cereal mash straw. Among cereals are good honey plants (corn). Debris from the manufacture cereals (bran, marcs, etc.) is an excellent feed and not least the secondary production of cereals (straw, stems) is used as bedding or even feeding. Recently gaining worldwide cultivation of cereals in the energy (sorghum as energy green mass), and the cultivation of grain for biofuel production (triticale, corn, etc.). Cereals are a rich source of trade. Physical and chemical characteristics of grains allow their transport over long distances and keeping them without much difficulty. You can eat in the harvest, or after several years without spoiling or significantly change their nutritional qualities. Interaction strongly influences fertilization variety production.

MATERIAL AND METHODS

Experience has been placed in specific climatic conditions Caras Severin Răcasdia village. Experimental field was located on a brown soil type, I-mezogleizat moderate slope deposits formed from decomposition and alteration of basic metamorphic rocks. Experience is bifactorial type, with annual repetition. Varieties: Cascade, Haiduc, Titan, Style, experience Gorun were used, and following fertilization systems.

Factor A - varieties of triticale used for zoning and their influence on grain production.

A1-CASCADE

A2-Haiduc

A3-TITAN

A4-STYLE

A5-Gorun

Factor B - influence fertilization system

B1-unfertilized (NOPOKO)

B2-N80P60K60

B3-N160P60K60

RESULTS AND DISCUSSIONS

Table 1 presents results obtained from the interaction of variety production of planting density and fertilization level considered.

Among the three factors, variety and density play a role in increasing the triticale grain production in 2011 at Răcășdia experimental Caras-Severin.

Table 1

Triticale production obtained under the influence of variety, density and fertilization in the experimental field from Răcășdia in 2011

Factor A Variety	Factor B Fertilization			A Factorial averages			
	N0P0K0	N80P60K60	N160P06K60	Production Kg/ha	%	Diference	Significance
CASCADOR	4427	4754	5949	5043	100	-	
HAIUC	4334	5205	6099	5213	103	130	
TITAN	4539	5323	6375	5412	107	369	
STIL	5792	6080	6775	6216	123	1173	xxx
GORUN	4375	5188	5998	5186	103	143	

DI 5% -389 kg/ha;DI1% - 611kg/ha;DI0,1% - 932kg/ha;

B Factorial averages

	N0P0K0	N80P60K60	N160P06K60
Production Kg/ha	4693	5310	6239
%	100	113	133
Diference	-	617	1546
Significance		xx	xxx

DI 5% - 211kg/ha;DI 1% -432 kg/ha;DI 0,1% - 659kg/ha;

In Style has been a variety 6216kg/ha production is 5% higher than the production version is made witness to a production increase of 1173kg/ha provided statistically very semnifativ.

The variety was a Titan 5412kg/ha production that made a positive difference from the control of production is not statistically.

Sowing density on the analysis of results shows that differences in production between variants is small as in the previous year.

Analysis of the production potential of the two variants fertilized production compared with control variant (N0P0K0) shows that all variants are considered superior to that witness experimental pot cheese in 2010.

The version N160P60K60 6239kg/ha achieved a production with a production increase of 1546kg/ha, being provided statistically very significant.

Production increase obtained in the variant fertilized with 80Nkg/ha (617kg/ha) is provided ststistic witness as distinct from production significantly.

Analysis results from the interaction of variety with the degree of fertilization shows that the highest grain yields are obtained from triticale variety in style, fertilization N160P60K60 - 6216kg/ha.

CONCLUSIONS

In the experimental field of Caras-Severin Răcășdia there were good results in the production of triticale grains.

Climatic conditions during sowing and harvest were largely favorable influence on the level of grain yield in triticale.

The soil that was placed for nutritional support experience ensure good plant growth and development of triticale.

Triticale grain production to vary the influence of the factors taken into study (variety and fertilization). Interaction of variety, fertilization strongly influences production.

Under the influence of the best varieties of grain production was achieved in Romanian variety Style - 6216kg/ha.

Under the influence of fertilization best productions were obtained from alternative N160P60K60 - 6239kg/ha.

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