

PRELIMINARY STUDIES ON THE PRODUCTION CAPACITY TRITICALE GRAINS (TRITICOSECALE WITTMACK) UNDER THE INFLUENCE OF DENSITY AND CLIMATIC UNDER THE VARIETY RĂCĂȘDIA CARAS-SEVERIN COUNTY

Pavel NEFIR, Valeriu TABĂRĂ

*Banat's University of Agricultural Science and Veterinary Medicine Timișoara Calea Aradului no.119, 300645 Timișoara, Romania
E-mail: pavelnefir@yahoo.com*

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 scleroții antihemoragice substances obtained from the rye fungus *Cleviceps 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. triticelei 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 dacăsemănatul 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 monogastricelor 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 class.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 of a doctoral program, with as theme: "Research have been used varieties: Cascador, Haiduc, Titan, Stil, Gorun. Mineral fertilizers applied to crop triticale, increased grain production. Variation in grain production in triticale (Triticosecale Wittmack) vary depending on the variety and density influence. The results of this study are part

Keywords: triticale, variety, density.

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. Grain foods 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. triticalei 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, borhoturi, 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 fitomasă), and the cultivation of grain for biofuels 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 density strongly influences the production plant.

MATERIAL AND METHOD

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, was used Gorun experience, and three densities.

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 - planting density and its influence on grain production.

B1-250 bg / m
 B2-500 bg / m
 B3-750 bg / m

RESULTS AND DISCUSSIONS

Production results achieved under the influence of the triticale variety in experimental 2010

Table 1.

Influence on the production of triticale variety in experimental 2010

Variety	Production kg/ha	%	Difference Kg/ha	Semnif.
CASCADOR	4492	100	-	
HAIIDUC	4785	107	293	
TITAN	5045	112	553	x
STIL	5302	118	810	xx
GORUN	4529	101	37	

DI 5% = 324 kg/ha; DI 1% = 592 kg/ha; DI 0,1% = 873kg/ha;

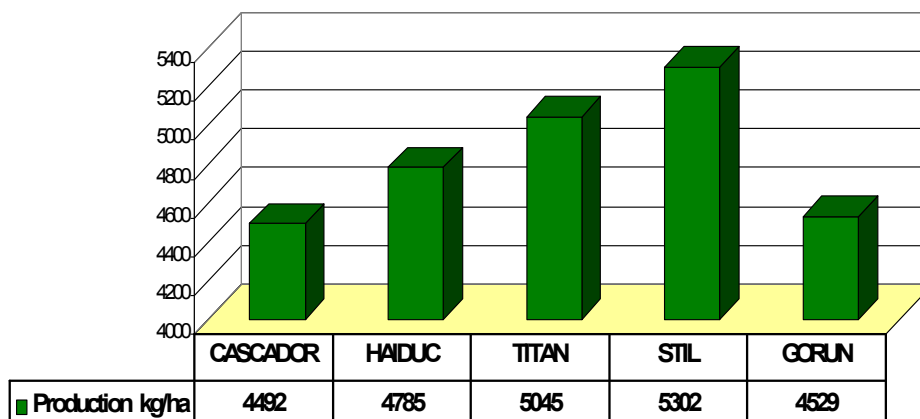


Figure. 1. Average production triticale variety under the influence in 2010

The table and figure 1. sunt harvest the results obtained from triticale varieties grown under the influence of the experimental field from Răcășdia.

Average production values range from 4492kg/ha the triticale variety to variety 5302kg/ha Stunt and Style. Variety style recorded the highest production 5302kg/ha production with an increase 810kg/ha being provided statistically significantly distinct. Variety Titan has a positive production increase of 553kg/ha and is provided statistically significant. Of the four species studied to witness the production of only two in the analysis, the other two (Haiduc and Gorun) are not statistically.

The table and figura.2. average triticale yields are influenced by planting density in 2010.

Table 2.

The influence of density on production in triticales in 2010

Density	Production kg/ha	%	Difference	Semnif.
250 bg/m ²	4476	100	-	
500 bg/m ²	4849	108	373	x
750 bg/m ²	5167	115	691	xxx

DI 5% =221 kg/ha; DI 1% = 387 kg/ha; DI 0,1% = 598 kg/ha

The triticales seeding density plays an important role in shaping production. Increasing planting density from 250 to 750 bg/m² bg/m², production increases from 4476 kg / ha to 5167 kg / ha. The density of 500 bg/m² obtain a production 4849 kg / ha and 750 are obtained bg/m² 5167 kg / ha.

The density of 500 Kg/m² obtains a positive output gap 373kg/ha being provided statistically significant.

It appears that the best production occurs at a seeding density of 750 bg/m², which recorded a production increase of 691kg/ha and is secured very significant statistically.

In Figure 2. average yields are presented graphically in triticales obtained in 2010 under the influence of seeding density.

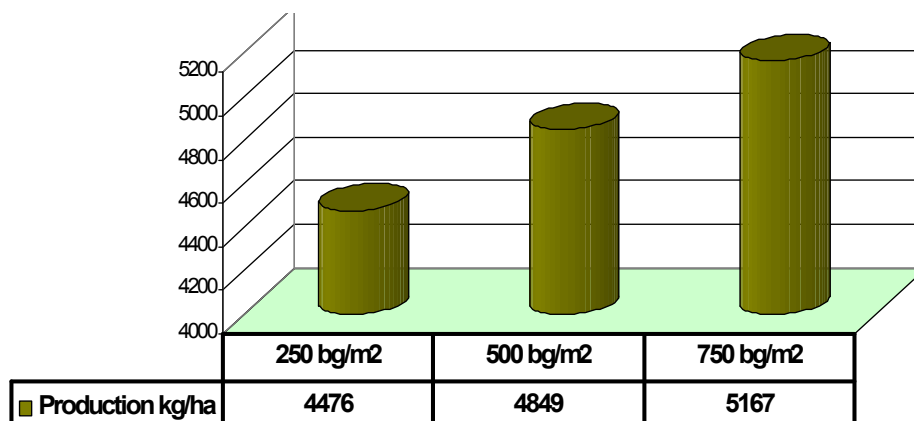


Figure.2. Average production in triticales under the influence of density in 2010

CONCLUSIONS

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

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

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

Triticales grain production to vary the influence of factors under study (the variety and density). Interaction density strongly influences the production plant.

Under the influence of the best varieties for grain production was achieved in Romanian variety Style - 5302kg/ha.

The variants were sown under the influence of density obtained from the best production version 750bg/m2 density with an average production of 51.67 kg / ha.

BIBLIOGRAPHY

1. BILTEANU GH. , BIRNAURE V (1979) *Fitotehnie*, Ed. Ceres Bucuresti
2. BILTEANU G, ROMAN G.(1981) *Productia vegetala*. Cereale si Plante tehnice nr. 3
3. BILTEANU GH. (2003) *Fitotehnie*, Ed. Ceres Bucuresti
4. DRAGOMIR N SI COLAB (2004) *Culturi furajere* Ed. Waldpress – Timisoara
5. GASPAR L, BUTNARU G (1985) *Triticale – o noua cereala*. Ed. Academiei Romane, Bucuresti