PRODUCTION POTENTIAL OF RAW JUICE MELLITUS OF SORGHUM (SORGHUM B. VAR. SACCHARATUM) UNDER THE INFLUENCE OF HYBRID AND FERTILIZATION UNDER THE CONDITIONS OF CARAS-SEVERIN COUNTY RĂCĂŞDIA

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Abstract: *History shows that cereals have always maintained their significance, along the development of human society and to this day. In addition, however, one can see a close link between grain production and progress of civilization. Sorghum is a very old culture, known in India for over 2000 years, cultivated for: beans, brooms, rich in sugar syrup, animal feed or fodder crop as green. Climate Change to heating and arid during 2001-2050 in the Balkans, which is located and Romania, requires a reconsideration of sorghum as: cereal food (beans composite flour used in the formula for baking gluten and gluten-free, fresh juice, extracted of strains used in the manufacture of syrup, vinegar and other food), fodder (as green mass, hay storage, feed pellets) and crops (sorghum and sorghum mature mellitus for the production of raw materials for energy (liquid, solid, gas, electricity, heat), chemical (stationery and textile pulp, plastics), building materials and craft industry (of household and industrial brushes, brooms, blended. Sorghum is the second cereal after maize commercially exploiting the heterosis effect in the agricultural farm, which increased the average production per hectare. is the first grain sorghum that has been fully sequenced genome (2006), which will give rhythms in November progress in improving the species in the coming years. sorghum grains used directly in the form of flour feeding people in some parts of Africa, India, China, Middle East and Egypt. In industry is used in the manufacture of starch, alcohol and beer, mixed with grains of barley. The sweet sorghum juice is extracted a sweet, rich and varied sucrose fitomasă energy use. In many parts of the world sorghum was traditionally used in various foods such as porridge , unleavened bread, cookies, cakes, couscous and various soft drinks and alcoholic. sorghum has unique properties that make it very suitable for food use. Some varieties of sorghum are rich in antioxidants and all varieties of sorghum are without gluten, an alternative attractive for those suffering from wheat allergy. Modern science in food and nutrition, attaches great importance to the role of nutrition in prevention of onset. Special attention is given to the development of food products for people with increased sensitivity to certain foods. The culture of sorghum, using far fewer pesticides than other crops (wheat and corn). It also should not neglect the fact that sorghum, sorghum particularly diabetes, contribute significantly to reduce air pollution ¬ bad. In different literature, shows that one hectare of sweet sorghum absorbs from the atmosphere each year between 40 and 55 tonnes of carbon dioxide (CO2), while other crops, eg cereals, only 3 to 10 tons per year CO2/ha . It should be noted that the sorghum plant is not lost anything after processing.Experience has been located in specific climatic conditions Răcasdia 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. The biological material used F135ST and Primsilo were hybrids. ST F135 hybrid obtained from INCDA Fundulea, and hybrid seed is certificate Primsilo of French origin. Mineral fertilizers applied sorghum crop mellitus, increased production of strains of which was obtained raw juice production. Change in production of sweet sorghum stalks raw juice (Sorghum b. var. Saccharatum) vary depending on hybrid and the influence of fertilization. The results of this study are part of a doctoral program, with as theme: "Research on the potential production potential in sorghum mellitus (Sorghum b. var. Saccharatum) and grain (Sorghum b. var. Eusorghum)" funded by the Ministry of Education Tineretului and Sports Research, the IOD*

U.S.A.M.V.B. Timisoara under the distinguished university professor Valeriu Tabara.

Keywords: *sweet sorghum, raw juice, fertilization.*

INTRODUCTION

The sorghum crop is sorghum diabetes category, considered to be most productive in terms of ind obtain juice and spirits food biomass for biofuels. From sweet sorghum juice is extracted a sweet, rich and varied uses sucrose fitomasses energy. In China and Africa, the flower and leaf sheaths to obtain a dye used to dye fabrics, wool and hides. In many parts of the world, sorghum has been used traditionally for various foodstuffs, such as porridge, unleavened bread, cookies, cakes, couscous and various soft drinks and alcoholic. Traditional cooking of sorghum is plentiful, cooked sorghum grain is one of the simplest products. Whole grains can be presented as ground flour or shelled before grinding, which then are used in different traditional foods. The cuisine of the southern United States sorghum syrup is used as a sweet spice, usually biscuits, corn bread, pancakes, cereals or beans. The sweet sorghum juice fertilization seeks to quality, which is why it is recommended for food purposes, growing on fertile soils. Favorable moisture conditions, sorghum react favorable to nitrogen fertilization both in terms of the yield and protein content in dry areas, have positive effect and phosphorus. Doses practiced today in the world varies, depending on experimental conditions. Production of sorghum stalks juice of raw sugar, is highly influenced by the technology applied (particularly fertilizer) that determines the quality and increase production.

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. F135ST and Primsilo hybrids were used in the experience.

FACTOR A: variety (hybrid)
A1: F135 ST Fundulea
A2: Primsilo
Factor B = B, fertilization system
B1 = unfertilized (N0P0K0)
B2 = N80P80K80,
B3 = N160P80K80,
B4 = N240P80K80,
B5 = N 160 P 160 160K

RESULTS AND DISCUSSION

Raw juice content of sorghum about mellitus, experimental checker from Caras-Severin Răcăşdia.Results for raw juice content of sorghum hybrids under the influence of diabetes are shown in Table and Figure 1.

Mean gross production of juice under the influence of research subject stands estab hybrids 10.5 l / tone hybrid strains Primsilo and 21.2 l / tone F135ST hybrid strains with a positive difference of 10.7 L is provided statistically very significant.

Average gross production from sorghum juice under the influence of fertilization mellitus are shown in table and figure 2.

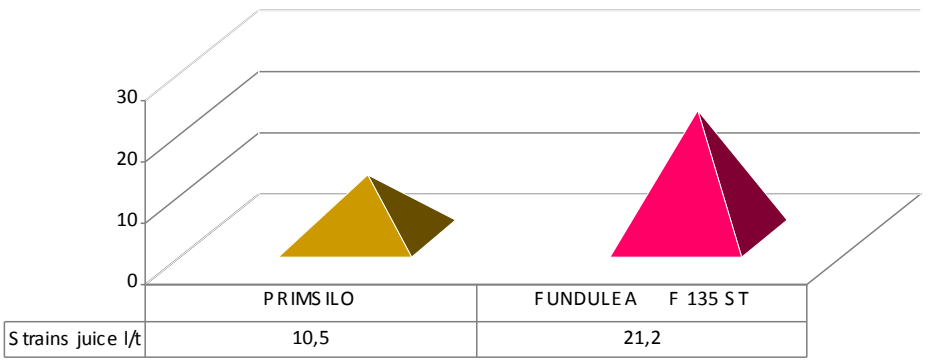
The Table raw juice obtained average yields of the strains under the influence of fertilization studied experimentally in 2010.

Table 1

Production of raw juice obtained under the influence of the sorghum hybrids to Răcăşdia mellitus in 2010

Hybrid	Strains juice l/t	%	Diference	Significance
PRIMSILO	10,5	100	-	
FUNDULEA F 135 ST	21,2	202	10,7	xxx

DL5%= 0,19 l/t green fodder, DL1%= 0,37 l/t green fooder, DL0,1%= 0,76 l/t green fodder



Fgiure.1. Change in raw juice content influenced hybrids used in research in 2010 to Răcăşdia

Table 2

Production of raw juice obtained under the influence of fertilization on sweet sorghum from Răcăşdia in 2010

Fertilization	Strains juice l/t	%	Diference	Significance
N0P0K0	7,15	100	-	
N80P80K80	11,15	155,9	4	xxx
N160P80K80	18,4	257,3	11,25	xxx
N240 P80K80	24,57	343,6	17,42	xxx
N160P160K160	18,12	253,4	10,97	xxx

DL5%= 0,21 l/t green fodder, DL1%= 0,43 l/t green fodder, DL0,1%= 0,68 l/t green fodder

Mean gross production of juice under the influence of fertilization lays estab 7.15 l / tone variant strains in fertilized (control) and 24.57 l / tone variant strains in N240P80K80 which has a positive difference of 17.42 and it is statistically as very production significantly from control.

The values over 18L / t strain ranges, the mean recorded versions N160P160K160 - 18.12 l / t strains and N160P80K80 - 18.4 l / t strains, each with a positive difference of 10.97 that it is statistically 11.25 as very significant.

It may be noted that compared with the control value recorded very significant positive differences in all variants fertilized subject research.

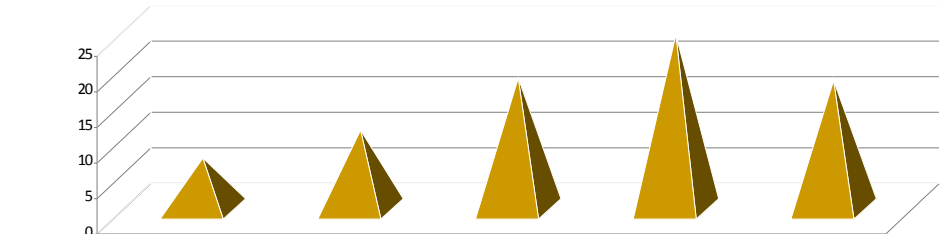


Figure.2. Change in raw juice content under the influence of fertilization used in research in 2010 Răcăşdia

CONCLUSIONS

In the experimental field of Caras-Severin Răcăşdia there were good results in the production of raw juice from sorghum mellitus.

Climatic conditions during sowing and harvest were largely favorable influence on the level of gross harvest sorghum juice mellitus.

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

Production of sweet sorghum juice gross to differ depending on the influence of the studied (hybrid and fertilization).

Under the influence of the best production hybrid raw juice to obtain the Romanian hybrid F135ST - 21.2 l / t.

The variants were sown under the influence of fertilization achieved the best production from N240P80K80 version with an average production of 24.57 l / t.

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