THE INFLUENCE OF FERTILIZATION AND PLANTING DENSITY ON YIELD OF WHEAT

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Abstract

Wheat is the most important cultivated plant, the largest share food . Large surfaces that is sown , and the attention of the plant are due to enjoy : the high content of grain in carbohydrates and proteins and the ratio of these substances requisite body , long grain preservation challenge and the fact that they can be transported without difficulty that the plant has high ecological plasticity , being grown in culture .Wheat berries are mainly used to produce flour for the manufacture of bread - the staple food for a large number of people (according to some statistics, 35-40 % of the world population) . Also seeds wheat used for making pasta , and as raw material for other industries very different. Stalks (straw) left after harvesting have multiple uses : raw material for pulp, husk , coarse forage , organic fertilizer , incorporated as such in the soil immediately after harvest or after being subjected to a composting process . Bran - waste from the milling industry - are particularly valuable concentrated feed , rich in protein, fat and minerals .Beans , wheat and feed can be focused very much appreciated , higher corn in terms of nutritional value , price and even as productivity . Seeds use as feed wheat is less prevalent here, but it is practiced in most major wheat producing countries . In terms of agronomy , crop wheat offers the advantage that it is fully mechanized . Also , wheat is a very good prior to conducting summer plowing . Therefore after wheat may be sown in principle any culture , after harvesting early varieties of wheat can be placed some successive cultures . Cultivated varieties . Assortment of Varieties currently accepted to be cultivated varieties include only Romanian . These varieties are characterized by a potential grain production of 9-10 tons / ha , resistance to lodging , frost , winter hardiness , drought and disease , nutritional value and high technological grain crop stability . 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 matherial used were variety Dropia.

Keywords*: wheat, fertilizer, density.*

INTRODUCTION

Wheat is the most important cultivated plant, the largest share food. Wheat berries are mainly used to produce flour for the manufacture of bread - the staple food for a large number of people (according to some statistics, 35-40% of the world population). Also boablele wheat used for making pasta, and as raw material for other industries very different. Stalks (straw) left after harvesting have multiple uses: raw material for pulp, husk, coarse forage, organic fertilizer, incorporated as such in the soil immediately after harvest or after being subjected to a composting process. Bran - waste from the milling industry - are particularly valuable concentrated feed, rich in protein, fat and minerals.

MATERIALS AND METHODS

The experimental field was placed in the land dobrogean falling entirely in the first country agro-climatic zone.

Experience has been placed in the field by the method bifactorial the experimental factors were:

FACT: - Agrofond
a0 - N0P0K0
a1 - N45P60K60
a2 - N90 P60 K60
a3 - N135P60K60
FACTOR B: - Density of sowing
b0 - 250 bg/m2
b1 - 450 bg/m2
b2 - 650 bg/m2
b3 - 850 bg/m2

Previous plant was kidnapped. Fertilization was done with chemical fertilizers, divided according to the level of the fertilizer for each variant. Grain yields were expressed in Kg / ha with 14% humidity. Statistical calculation and interpretation of results were done by analysis method The variance in order to establish the significance of the difference between the variations (agrofunds, seeding densities), calculating the differences limit.

RESULTS AND DISCUSSION

Yields were obtained by harvesting wheat. The highest yield was recorded in the agro 850bg/m2 N135P60K60 and density. The output after harvest was cleaned of impurities and weighed. Calculation and interpretation of the result was done by analysis of variance method (NN Săulescu 1967). The results obtained for wheat production in experimental agrofond 2013 under the influence of density and are shown in Table 1.

Table 1

Harvests Dropia variety and density influenced agrofond 2013 in Dobrogea

Factor A agrofond	Factor B- density				Harvest (kg/ha)	%	Diference. (kg/ha)	Significance
	250bg/m^2	450 bg/m^2	650 bg/m^2	850 bg/m^2				
N0P0K0	4476	4587	4755	4956	4694	100	-	
N45P60K60	5145	5356	5542	5796	5460	116	766	xxx
N90 P60 K60	5875	5881	5900	5923	5895	126	1201	xxx
N135P60K60	5983	6190	6289	6478	6235	133	1541	xxx

DL 5% = 143,5 Kg/ha;DL 1% = 200,8 Kg/ha;DL 0,1% = 296,0 Kg/ha

Harvest (kg/ha)	5370	5504	5622	5788
%	100	102	105	108
Diference (kg/ha)	-	134	252	418
Significance		x	xxx	xxx

DL5%-121,6kg/ha; DL1%- 179,8kg/ha; DL0,1%- 198,4kg/ha

Analyzing interaction between agrofond and density on the yield of wheat variety Dropia, we find higher production per agrofunds N90 P60 K60 and N135P60K60, with values 5895 kg / ha and 6235 kg / ha.

Gains obtained at the higher agrofunds productions are statistically highly significant as compared to production control (N0P0K0 - 4694kg/ha).
Wheat production obtained under the influence of seeding densities fall in density 250bg/m2 5370kg/ha inputs respectively 850bg/m2 5788kg/ha in density, being highest yield recorded. At densities 650bg/m2 and 850bg/m2, production increases obtained are statistically highly significant as compared to production control.

CONCLUSIONS

In the experimental field of Dobrogea have good results in the production of wheat kernels.
Climatic conditions during sowing and harvesting were largely positive influence on the level of grain yield in wheat.
The soil on which were placed the experiences they provide nutritional support for proper growth and development of wheat plants.
Grain yield of wheat varies by the influence of the studied (fertilization and seeding density). Interaction fertilization, density strongly influences production.

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