RESEARCH ON THE INFLUENCE OF AGROFOND TO THE MAIN TRAITS OF BREAD WHEAT

R. M. BOGDAN, V. TABĂRĂ, Ioana Maria MATEAŞ

**** Banat's University of Agricultural Sciences and ''King Michael I of Romania '' Veterinary Medicine***

Calea Aradului 119, Timisoara, Romania
mateasioanamaria@yahoo.com

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 . The composition of wheat grain non-nitrogenous extractive substances predominate (62-75 %) of the fresh weight of the grain, formed by more than 90 % of starch, dextrin and the remainder , and other simple carbohydrates . Non-nitrogenous Extracts are accumulated mainly in endosperm proteins . Usual protein substances represent 10-16 % of the grain mass (limits between 8 and 24%) and are located mostly at the periphery of the grains (coatings , aleurone layer) in the embryo and scutellum . The amount and composition of grain protein giving nutritional quality. The accumulation of protein in the grain depends on a number of factors, such as wheat species, variety, climatic conditions, and natural fertility of the soil and nitrogen rates used. Of these factors, climatic conditions have a particularly important role. In dry , warm climates , the accumulation of protein in the grain is favored , on the other hand during training and grain filling is shorter , is baking a hurry and therefore percentage of protein is more grain composition . In contrast, in wet and cool climates is favored accumulation carbon also hydrates; grain formation period is longer, which favors the accumulation of large amounts of starch. Also, under irrigation, content in wheat grain protein substances is lower. Whole wheat proteins consist mainly of occupying the space between the endosperm and starch grains, after macun in flour includes grains of starch. By adding water, gluten forming collodion membrane which will retain some carbon dioxide bubbles in the dough and give rise to soft dough. The grains of wheat "wheat" manufacture of pasta, contain a higher amount of protein and gluten, but gluten has a shoddy bakery instead is strong according to manufacture pasta, boil with high stability due filaments forte protein resistant.

Keywords*: wheat, fertilization, protein, gluten.*

INTRODUCTION

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. The content of wheat grain protein substances is influenced by genetic factors (variety) and vegetation factors (BÎLTEANU 2003).Protein is an essential element of quality wheat. Of technological elements, nitrogen fertilizers exert a very pronounced on high protein content.

The protein content - wheat, depends largely genetic endowment variety of wheat, sowing methods used, the state of maturity of the grain, as well as climatic conditions, etc. Administration of chemical fertilizers, irrigation sowing process and drought during grain development, promotes increased protein content of the grain. One year rainfall results in lowering the protein content of the grain.

MATERIALS AND METHODS

The results of the main traits of bread wheat variety bustard were made in the laboratory "Testing the quality of seed and plant material" in the discipline of the Faculty of Agriculture in Timisoara. To characterize cereals have used a number of indicators that consider the physical condition or quality. Sampling was carried out from the mass of grain after wheat harvest. Wheat samples were cleaned of foreign matter and then were processed. Laboratory tests were conducted in whole grain, crushed with a laboratory mill. General condition of the grain mass was evaluated by the following parameters: taste, smell, color, moisture, infestation, contamination. Sensory analysis of the grain is first of all the analysis performed to assess the lot of grain. The analysis consisted of assessing the appearance, color, odor, taste the grain of wheat. Appearance and visual examination was made of the state considered the outer surfaces of the grains.

RESULTS AND DISCUSSION

The average values of protein content in the Dobrogea carried out under the influence of a variety Dropia agrofond and are shown in figure 1.

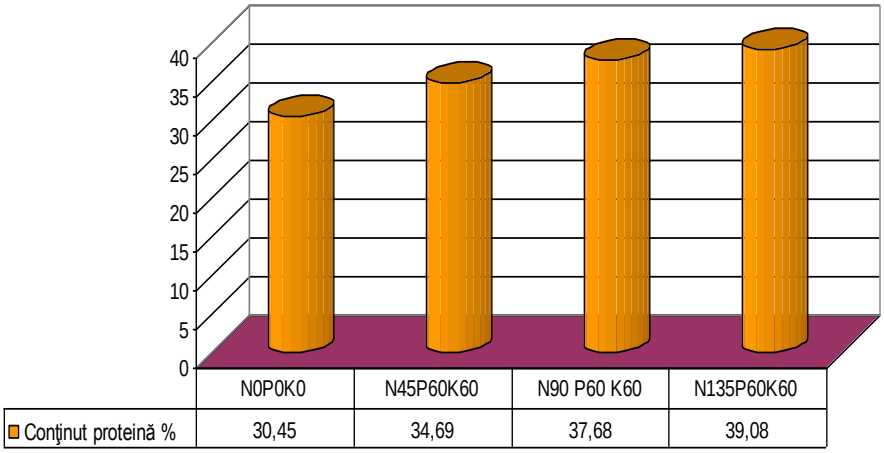

Figure. 1: Changes in average protein content (%) depending on wheat variety agrofond Dropia

Average protein content (%) relative to the type of applied fertilization of conditions from Dobrogea, in 2013, the following characteristics: N135P60K60 for fertilization there is an average protein content of 39.08%, the fertilization of N90P60K60 of 37.68% and a fertilizer N0P0K0 an average protein content of 30.45% (Figure 1). Nitrogen content of wheat grains and protein substances is positively influenced by the richness of soil nitrogen. Analyses grain wheat variety Dropia demonstrated economic efficiency of application of mineral fertilizers.

Among the total content of protein and dry gluten content are dependent: the higher the protein content of whole grain is the largest and gluten. Wheat gluten is considered rich in substances whose total protein content exceeding 13%. The proportion of gluten proteins generating indoor grow (7.6%) to the outside of the endosperm (16.25%) (Catalog Anual cu Date privind Calitatea Grâului în România, 2008).

Media gluten content (%) relative to the type of fertilizer applied to wheat plants is as follows: the type N135P60K60 fertilization there is an average content gluten de 33.89%

followed by 29.59% to a type fertization N90P60K60 and 28.2% for fertilizing N45P60K60 (Figure 2).

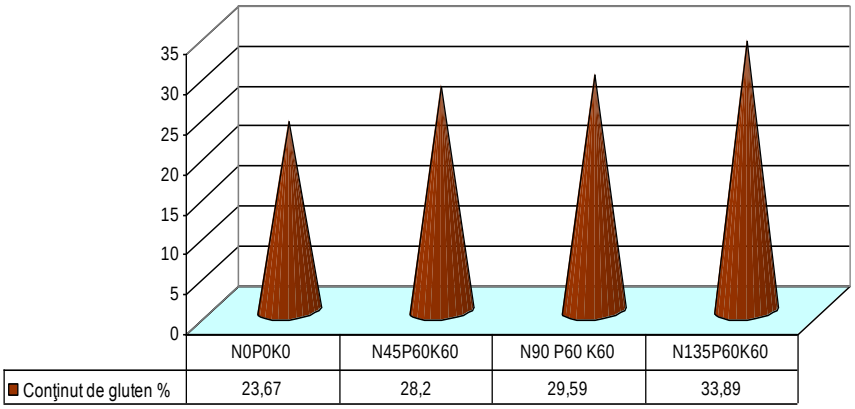

Figure 2. Changes in average gluten content (%) by fertilizing wheat variety Dropia

CONCLUSIONS

The analysis in terms of quality of works studied in Dobrogea variety allows important conclusions to be drawn which meant production of wheat variety in 2013:
1) The climate of 2013 had a positive influence baking quality of wheat variety Drop.
2) The protein content of wheat, depends largely on the variety of genetic endowment, manage their fertilizer and drought during grain development.
3) Wheat variety Dropia stood in terms of value protein content and gluten content on the agro N135P60K60, where they recorded the highest values.

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