

The Effect of Humidity and Temperature on Local Conditions, Especially in Syrdarya, On Increasing the Amount of Wheat Grain Gluten

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Abstract: All over the world, breeding trends aimed at improving the quality of agricultural products are becoming increasingly widespread. The leading place in improving the quality of wheat is occupied by the study of new varieties whose grain quality is characterized by resistance to the effects of unfavorable environmental factors. The amount of protein in wheat grain, as well as the mass fraction of gluten, is largely determined by the air temperature during the period of grain formation and ripening.

Keywords: selection, trends, environmental factors, formation, vegetation, precipitation, protein, gluten.

INTRODUCTION

Grain is the state's raw material for creating food and feed stocks. It is possible to grow high-quality wheat grain only with constant control of grain quality at all stages of selection, testing, zoning and cultivation. Therefore, the decisive factor for the sustainable growth of the productivity of agricultural crops is the availability of ecologically flexible varieties and crops that can more effectively use the soil and climate conditions in different regions of the region. The amount of gluten in wheat is affected by the variety, growing conditions, proper harvesting and storage, as well as the chemical fertilizers and herbicides used. Diseases, pests and unfavorable growing conditions have a negative effect on the composition of klicovina. By the decision of the Cabinet of Ministers of the Republic of Uzbekistan dated September 5, 2019 No. 733 "On measures to further improve the activity of the Seed Development Center under the Ministry of Agriculture of the Republic of Uzbekistan, 300 irrigated land areas are allocated per hectare.

LITERATURE ANALYSIS

Klicovina is a water-insoluble part of the group of prolamin and glutelin proteins. With this, a sticky, plastic mass is formed during kneading - a dough frame [1]. This substance was first isolated in 1728 by the Italian chemist Jacopo Bartolomeo Beccari. Klicovina is present in cereal plants such as wheat, rye and barley and is located in the endosperm (peripheral layers and central part) of the grain [2]. Fiber is an important parameter in cooking because it affects the nature of baked products. In the production process, the dry part of proteins is added to a low-quality product to obtain flour that meets the requirements of GOST [3]. Technologists distinguish three groups of gluten:

Group I is characterized by good fiber qualities (45-75 IDK units).

Group II - satisfactorily strong or weak (20-40 or 80-100 IDK units).

Group III - unsatisfactory strong or weak clikovina (0-15 or 105 or more IDK units)

According to GOST R 54478-2011 [4]. "Methods for determining the amount and quality of gluten in wheat" determination of gluten concentration is carried out by extracting raw gluten from dough and washing it [5]. The obtained sample is weighed and the raw cellulose content is calculated in relation to the dry milled grain sample [6]. The quality of cellulose is determined by measuring the deformation of the raw cellulose pellet under load for a certain

ANALYSIS AND RESULTS

The Chillaki variety was created in cooperation with the Krasnodar Agricultural Research Institute named after P.P. Lukyanenko at the Scientific Research Institute of Grains and Leguminous Plants in Irrigated Lands. It has been included in the State Register since 2002 for planting on irrigated land areas of Uzbekistan.

Origin: hybrids obtained from the combination of Genrumil and Yuktina varieties were created by the method of individual selection from F2 and F4 generations.

Authors of the variety: R. Tolanov, T. Jalolov, O. Rakhimov, Yu. M. Puchkov, G. D. Nabokov, T. F. Salyarek, I. N. Kudryashov, L. A. Bespalova, N. P. Fomenko, A. M. Vasilyeva.

General description: The variety is very early, short (85-95 cm), resistant to lodging. It belongs to the genus *Erythrospermum*. Cold resistance is average, drought resistance is lower than average, it can be infected with yellow rust and spike fusarium. Resistant to powdery mildew and severe powdery mildew. Due to the early maturity of the variety, diseases cannot have a negative effect on the productivity of the variety.

Productivity: The average productivity per hectare is 65-70 centners under high agrotechnical conditions. In 2001-2003, in the experimental farm "Istiqlal" of the institute, the yield of the variety under production conditions was 85.2-87.9 centners per hectare, in the Fergana branch of the institute, 77.6-79.2 centners, in the Namangan branch, 68.0-71.8 formed a centner.

Baking quality: Gives "expensive" grain in terms of grain quality.

Planting periods: Planting is recommended in all regions of the Republic, the optimal period for each region is considered.

Sowing rate: 4.5-5.0 mln. It is determined by the amount of fertile seeds. When cotton is planted between rows, the rate of seeding should be increased by 15-20%.

The Tanya variety is distributed around the Mediterranean Sea, and the vegetation period is 217-289 days. It ripens at the same time or 1-2 days later than the Scythian standard. Standard winter hardiness. The height of the plant is 57-88 cm. Drought resistance is slightly higher than the Skifyanka variety.

The main growing areas: widespread in the North Caucasus region, Krasnodar Territory, the Republic of Adygea, in the southern zone of Rostov Region.

Productivity: average weight of 1000 seeds: 43-45 g.

Flour milling and baking qualities: High flour milling and baking qualities are suitable for high value wheat varieties.

Founder of the tour: named after KNIISKH. P.P. Lukyanenko in Krasnodar

Plant characteristics: Semi-dwarf wheat, plant height 57-88 cm. **Productivity of the variety:** This is a high-yielding variety. The average yield of the variety is 45 tons/ha, which is 4.6 tons/ha higher than the average.

Effect on abiotic factors: Cold resistance: above average Drought resistance: high Fertilization rate: 4-5 million per hectare.

Heading: Based on the average of 4 predecessors in moderately susceptible test years, the yield of the Tanya variety was 79.4 quintals per hectare, which is 10.7 quintals higher than the standard variety.

The following indicators were used in the analysis of grain quality: the amount of protein and fiber content of grain, flour strength and variety quality indices. As a result of the research, a negative correlation between productivity and air temperature was found in June. The relationship between productivity and precipitation and HTC was positive. Average reliable correlation of yield was with rainfall in June. A significant negative correlation was found between the yield and the amount of protein and fiber in grain: $r = -0.758 \pm 0.098$ and $r = -0.782 \pm 0.094$. The amount of protein and fiber in grain showed a highly significant relationship with each other - $r = 0.945 \pm 0.055$. In July, in the second half of the vegetation period, a high positive relationship developed between the average daily air temperature and the amount of protein and gluten in grain. Rainfall in the second half of the growing season reduced the quality indicators of the variety. Thus, the formation of wheat grain productivity and quality indicators was influenced by the temperature regime and the amount of precipitation in all periods of plant growth and development.

Conclusion. Thus, as a result of the conducted research, it was found that the accumulation of gluten raw material in wheat grain and its quality significantly depends on the weather and climate conditions of the growing season in the desert zone of the Republic of Uzbekistan. The amount of precipitation and favorable temperature conditions play an important role during the formation and ripening of grain. An increase in the average daily temperature during the period of grain filling and waxy ripening has a positive effect on the fiber content.

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