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IMPORTANCE OF AUTUMN RYE AND AGROTECHNOLOGIES IN CULTIVATION.

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Abstract:

This article presents information on the influence of planting dates, norms and feeding on technological quality indicators of autumn rye varieties in the Republic of Uzbekistan.

Keywords: new, soil, grain, wheat, grain, global climate, fertilizer, grain, temperature, acceptable, option, vegetation, grain.

Today, the food problem is becoming one of the global issues in the world. There are several reasons firstly the increase in the number of the world's population, and secondly, the soil and weather conditions are changing dramatically. Also, unlike other winter cereals, rye outcompetes weeds and clears the field of weeds. Rye leaves 1.5-2.0 times more root and stem residues in the soil than wheat, because its root system is strongly developed and has the ability to penetrate into the deep layer of the soil. Therefore, after rye, it is possible to plant a number of crops (grain crops, cotton, legumes) and grow a rich harvest from them.

Compared to other grain crops, rye is less prone to diseases, it has a record level of frost resistance among autumn spike crops, and it can grow even in low-fertility, swampy, highly acidic, low-saline, and low-moisture soils.

Rye was cultivated 1-2 thousand years before our era. Rye was not known as a cultivated crop in the history of ancient civilizations in Greece, India, and China. Rye black wheat (Secale) belongs to the group of annual and perennial plants belonging to the cereal family. 11 of its 13 species are wild and grow in Asia Minor and Central Asia, Iran, Afghanistan, Transcaucasia, South Africa, and one of the remaining 2 species is a weed in the fields. The second is cultivated or cultivated (S.sereale) rye grown mainly in Northern Hemisphere countries . Rye is native to the foothills of the Caucasus, Asia Minor and Central Asia.

According to the information of I.Podgornogo, sorghum came from Europe to Asia until our time, developed along with wheat and barley and was considered a weed among them. Rye was not cultivated in ancient agricultural countries. However, as early as 685 BC, rye was known in Tibetan medicine and cultivated by the people of the northern Mediterranean.

Winter rye has little place in world grain production. However, rye is of great importance in the agriculture of a number of countries of northern and central Europe. The main production is Russia, Poland, Germany, Belarus and Ukraine, and their share in the whole world is approximately 80%. In recent years, rye has been planted in Belarus on an area of 270-280 thousand hectares, the total yield was 0.8-0.9 million tons, and the yield was 29-32 tons/ha.

In Germany, one of the world's largest producers of rye grain, rye grain is used for bioenergy (57%), bread (17%), feed (13%), and export and other purposes. In Estonia, 50% of the rye grain produced is used for food purposes.

V.V Vyurkov and others say that autumn rye and wheat are traditional grain crops of the Western Kazakhstan region. They make good use of autumn moisture reserves and mineral fertilizers, and a well-developed root system helps them overcome the negative effects of spring-summer drought.

Rye is an important nutritious crop, and its grain is used in the production of bread flour. Rye bread is considered an expensive food product, it has high calories and great taste. According to these indicators, rye bread ranks second only to wheat bread. Rye has high winter resistance and requires little maintenance compared to wheat.

Its importance that it is considered one of the most important grain crops, and its grain and straw are used in the food industry and animal husbandry. The protein content of the seeds is 9-10%, starch is 53-64%, and the oil content is 1.5-1.8%, depending on the soil and climatic conditions. Rye bread contains vitamins A, V1 , V2 , E, RR, etc. Rye flour and

products made from it are rich in calories and have a unique taste. Rye flour contains 1.5 times more lysine, several times more tyrosine and threonine than wheat. Grain is used as a raw material for making bread and bakery products, as well as alcohol and starch preparation.

Today in the main Northern and Central European countries of the world Rye is planted on more than 9.5 million hectares and 14.3 million tons of grain are grown. Countries such as Russia, Poland, Germany, Belarus and Ukraine account for 80 percent of the grain harvest. The Russian Federation has the largest rye cultivation area in the world at 3.5 million hectares. The main fields are located in the Middle Volga, Central, Volga-Vyatka regions, as well as in Central Chernozem and Western Siberia. The average yield of rye in the world is 3.3 tons, in the Russia Federation this indicator is 1.8 tons, the highest yield is 5.0 tons in Germany .

The ecological adaptability of the rye plant in the countries of the world, unlike other grain crops, it improves the phytosanitary condition of the field, microbiological processes in the soil, due to its strong root system, it absorbs substances from the soil well, it is resistant to fungal and root rot diseases, winter, drought, saline, heavy clay, waterlogged. grow in soils special attention is paid to Including, in order to obtain a high and quality grain harvest from rye, taking into account its biological properties, fertilizer requirements, their planting period, rate, and the development of the rate of mineral fertilizers are considered urgent issues.

One of the indicators characterizing the grain size and composition is the weight of 1000 grains, which varies depending on the biological characteristics of the variety, regional climate and growing conditions. The higher the weight of 1000 grains, the higher the amount of endosperm and the better the sowing and yield indicators of the seed. Autumn rye is the second bread crop after wheat in several countries. Rye bread is high in calories, nutritious, tasty, full grain, contains irreplaceable amino acids, proteins, carbohydrates, mineral elements, unsaturated fatty acids, and biologically active substances. Despite the fact that the amount of protein in rye grain is slightly less than that of wheat, it is more complete from the biological point of view in terms of the content of amino acids in the protein. So, rye has its own place among grain crops, and it is not inferior to wheat in terms of importance. Bread prepared by adding a little wheat flour to rye flour is important for its richness, taste, nutritional value and usefulness for human health. It is used as fodder in animal husbandry. Also, rye is important due to its quick adaptability to weather conditions, resistance to drought and adverse winter conditions, soil environment and fertility, and low demand for mineral fertilizers.

According to the data of O. Yakubjonov and others, it is stated that the weight of 1000 grains describes the size of the grain, the density of its composition, and the amount of nutrient reserves. others argue that the 1,000-grain weight also represents a trait of flexibility in plants that characterizes the result of cultivar and climatic conditions.

L.A. Tokhtaeva states that the weight of 1000 grains depends on the genotype of the plant, and as the grain becomes larger, the amount of starch in the composition increases, and the amount of protein in the composition of small grains increases. grain weight changes depending on the level of supply of moisture and nutrients to the crop, as a result of diseases and pests they say.

According to the researches of B. Hasanov, it was known that the weight of 1000 grains of autumn rye, together with the biological characteristics of the variety, was significantly influenced by the planting period, rate and rate of fertilizers. 2-29.7 g, this indicator of planting It was known that it is 3.5 grams more than the 20-25.10 term (18.0-26.5 g). In the research, the highest indicators for the weight of 1000 grains, the planting period of autumn rye "Ns Savo" variety 01-05.10, at the rate of 4.0 mln/ha, fertilizers N 240 P 120 K 90 kg/ha were applied in the 3rd option (29.7 g) were observed, the lowest indicators were planted in the variety "Vakhshskaya 116" Date 20-25.10, rate of 6.0 mln/pc.ha, control (without fertilizer) was recorded in option 16 (18.0 g). Also, changes in sowing rates (4.0, 5.0 and 6.0 million pieces/ha), autumn rye varieties negatively affected the weight of 1000 grains and led to its decrease. Also, as a result of increasing the planting rate to 6.0 million units/ha, it was observed that fall rye plants were dormant, and it was determined that the negative effect of grain per 1000 units of weight increased even more. In this regard, it was known that the 4.0 mln. units/ha norm, among the planting standards, recorded high indicators compared to other planting standards by the weight of 1000 grains. In particular, when the autumn rye variety "Ns Savo" was planted in the period of 01-05.10, at the rate of 4.0 million pieces/ha, the weight of 1000 grains was 21.8-29.7 g according to the options, and the planting rate was 5.0 million. compared to the norm of 20.9-27.0 g or 4.0 million pieces/ ha 0.6-5.2 g less, 6.0 mln. and at the rate of 19.9-23.8 g per hectare, it was 1.9-5.9 g less than the above, while the variety «Vaxshskaya 116» of autumn rye was 4.0 million per 1000 per hectare grain weight is 21.1-28.8 g , and when the planting rate is 5.0 million grains/ha, it is 20.2-25.9 g or 0.9-4.8 g less than the norm of 4.0 mln. units/ha , 6.0 mln. It was noted that it was 19.2-23.3 g per piece/ha, 1.9-5.5 g less than the above .

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