

INFLUENCE OF PLANTING PERIOD ON GRAIN YIELD OF OAT PLANT GROWN  
IN THE NORTHERN REGIONS OF UZBEKISTAN

U.D.Aymuratov,

*Doctoral student of Karakalpakstan Institute of Agriculture and Agrotechnologies*

A.A.G'aniyeva

Freelance researcher

**Abstract.** This article describes the results of studies on the agrobiological characteristics of corn varieties suitable for cultivation in the northern regions of Uzbekistan. Here, the main parameters of the corn varieties selected for the experiments were analyzed. As a result of the research, scientifically based conclusions were made.

**Keywords.** Oats, productivity, quality, planting dates, early, medium and late ripening varieties, productivity

**Enter.** Today, corn is grown in more than 85 countries around 50 million. is grown on an area of more than 1 hectare, its gross yield is 64 mln. tons. The main part of the cultivated crop is used in the production of sugar and food products, while a certain part is used as fodder for livestock. India - (18.5 million ha), Argentina - (8.9 million ha), Cameroon - (8.0 million ha), Brazil - (7.3 million ha) and China ( 5.5 million ha) in countries such as the creation of new high-yielding, disease- and pest-resistant varieties of this crop, the development of optimal agrotechnical measures aimed at maximizing the amount of sugar, protein and other important nutrients in the plant stem and grain is an urgent problem<sup>1</sup>.

In Uzbekistan, as part of localization programs, sorghum grain is widely used to create dietary food products, cheap, import-substituting local raw materials in the pharmaceutical industry, and nutritious food for livestock. In the agriculture of our country, in the Republic of Karakalpakstan, extensive measures are being taken to select, create and develop agro-technologies for the selection, creation and cultivation of high-yielding and high-quality varieties of corn suitable for processing. Therefore, the population and livestock have a very high need for corn products

**The purpose and specific issues of the research.** It consists in separating the varieties of corn suitable for processing, storing the cultivated grain, and improving the technology of processing them and making various products.

**Material and methods.** Daulet and Uzbek pakana varieties belonging to the fast-ripening group of sorghum, Korabosh, Uzbekistan 5 and Oranjivie-160, medium-ripening varieties and Uzbekistan 18, Uzbek pakana, Sanzar, Shirin 91 and Boy sorghum varieties belonging to the late-ripening group were selected for research.

According to the method of conducting research:

Studies were conducted to determine the effect of planting dates on the quality of corn grains grown in the conditions of the Republic of Karakalpakstan according to the technological and biochemical composition.

#### RESEARCH RESULT AND DISCUSSION

The research was conducted in the fields of the farm "Alakhamba", Chimboy district, Republic of Karakalpakstan. Also, the selected varieties are planted on the sowing day of April, the third and the first day of May, and the technical processing of them begins in August.

<sup>1</sup> <https://agronom.expert/posadka/ogorod/zlaki/sorgo/saharnoe-kak-ego-vyraschivayut-i-kuda-primeniyayut.html>;  
<https://www.newworldencyclopedia.org/entry/Sorghum>

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As we determined the biometric performance of experimental sorghum varieties over the years. Biometric indicators of sorghum varieties differed almost from each other.

Research on this research was conducted in Chimboy district of the Republic of Karakalpakstan. 9 selected varieties were planted and their economic and biological indicators were studied (see Table 3.1). As a result of studies, the following was revealed:

Daulet variety of sorghum was selected as a control and compared with other varieties. When studying the economic and biological characteristics of Dauletnavi, it was found that the shape of the grains is ovoid and the size is large. Also, the location of the furrows was sparsely grained, and the length was 22-28 cm. All the studied samples were measured and the average value was 24 cm. Grain was also analyzed. According to the results of the analysis, the color is light green, and the shell (husk) of the grain accounted for 32-38% of the total weight.

This variety has the largest grain among the studied varieties, and 1000 grains averaged 30 g. According to the results of studies on the productivity index, it was found out that an average of 60.6 centners of grain and 400-600 centners of blue stalks can be obtained from 1 hectare of land.

When studying the economic and biological characteristics of the Uzbekistan-5 variety of sorghum, it was found that the shape of the grains is ovoid-oblong, white, hairless. Also, the location of the furrows was sparsely grained, and the length was 22-28 cm. All the studied samples were measured and the average value was 24 cm. The grain was also analyzed. According to the results of the analysis, the color is double-double, white, and the shell (husk) of the grain accounted for 16.4-20.4% of the total weight.

This variety is larger than Oranjivie-160 among the studied varieties, and the average weight of 1000 grains is 18.4 g. According to the results of studies on the productivity indicator, it was found that an average of 50.8 centners of grain and 350-450 centners of blue stalks can be obtained from 1 hectare of land. According to the results of our experiments, when studying the economic and biological characteristics of the Oranjivie-160 variety of corn, it was found that the shape of the grains is oblong. The location of the furrows was also sparsely grained, and the length was 21-27 cm. All the studied samples were measured and the average value was 23 cm. Grain was also analyzed. According to the results of the analysis, the color is yellow-brown, and the shell (husk) of the grain accounted for 37-43% of the total weight.

This variety has the smallest grains among the studied varieties, the average of 1000 grains was 16 g. According to the results of studies on the productivity indicator, it was found that an average of 24.3 centners of grain and 900-1200 centners of blue stalks can be obtained from 1 hectare of land.

When studying the economic and biological characteristics of the Uzbek pakana variety of oats, it was found that the shape of the grains is ovoid, long, white. Also, the location of the furrows was dense, and the length was 15-21 cm. All the studied samples were measured and the average value was 18 cm. Grain was also analyzed. According to the results of the analysis, it was found that the color is round, white, concave on both sides, and the shell of the grain is without husk. 1000 grains averaged 21.1%.

According to the results of studies on the productivity indicator, it was found that an average of 62.2 centners of grain and 200-350 centners of blue stalks can be obtained from 1 hectare.

According to the results of our experiments, when studying the economic and biological characteristics of the Korabosh variety of corn, it was found that the shape of the grains is broom-like, spread out, and the size is large. Also, the location of the furrows was sparsely grained, and the length was 22-28 cm. All the studied samples were measured and the average value was 25 cm. Grain was

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also analyzed. According to the results of the analysis, the color is black, the color of the shell, and the shell (husk) of the grain accounted for 35% of the total weight.

Among the studied varieties, this variety is smaller than the Daulet variety, and it was found that 1000 grains averaged 24.3 g. According to the results of studies on the productivity index, it was found that an average yield of 20.8 centners of grain and 350-390 centners of blue stem can be obtained from 1 hectare.

According to the results of our experiments, when studying the economic and biological characteristics of the Uzbekistan-18 variety of corn, it was found that the shape of the grains is oblong-ovoid. The location of the furrows was also dense, and the length was 20-25 cm. All the studied samples were measured and the average value was 23 cm. Grain was also analyzed. According to the results of the analysis, the color is flat, round, white, and the shell (husk) of the grain accounted for 29-39% of the total weight.

Among the studied varieties, this variety has small grains compared to the Daulet variety, and it was found that 1000 grains averaged 19 g. According to the results of studies on the productivity indicator, it was found that an average of 53.8 centners of grain and 220-277 centners of blue stalks can be obtained from 1 hectare of land.

Table 1

**Oat yield and yield of seed grains during the planting period (2017-2018 year)**

No	Varietal name	Bush thickness (to 1.p.m.), piece	Head length, cm	The number of joints, piece	Rowak clause	number of leaves, piece	Leaf length, cm	Leaves width (max), cm	Furrow length, cm
1	Daulet (Control)	11±1,5	112,0±8,5	9,6	21,4	15,2	63,2	5,1	27,0
2	Uzbekistan-5	12±1,5	179,0±16,7	11,0	48,7	11,2	42,2	5,1	27,0
3	Oranjivie - 160	14±1,5	220,5±14,1	7,2	42,4	15,0	55,6	6,2	26,0
4	Pakana of Uzbekistan	15±1,5	123,7±7,2	6,1	51,3	6,3	64,8	6,1	21,0
5	Korabosh	12±1,5	220,0±18,5	11,0	30,2	13,4	56,2	6,1	28,0
6	Uzbekistan-18	9±1,5	350,0±15,3	15,0	34,5	16,2	59,4	6,2	26,0
7	Sanzar	12±1,5	330,0±19,4	10,7	27,6	12,2	58,0	6,1	24,0
8	Sweet 91	12±1,5	260,7±18,1	10,4	33,7	11,6	64,4	5,9	33,0
9	Rich oats	13±1,5	270,6±14,2	11,2	30,8	12,3	65,2	6,4	22,7

When studying the economic and biological characteristics of the Sanzar variety of barley, it was found that the shape of the grains is oblong. Also, the location of the furrows was sparsely grained, and the length was 17-23 cm. All the studied samples were measured and the average value was 20 cm. Grain was also analyzed. According to the results of the analysis, the color was yellowish, and the shell (husk) of the grain accounted for 39-45% of the total weight.

Among the studied varieties, this variety has small grains compared to the Daulet variety, and it was found that 1000 grains averaged 22 g. According to the results of studies on the productivity index,

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it was found that an average of 32.0 centners of grain and 190-261 centners of blue stalks can be obtained from 1 hectare of land.

When studying the economic and biological characteristics of the Shirin 91 variety of sorghum, it was found that the shape of the grains is pyramidal, red-yellow. Also, the location of the furrows was densely grained, and the length was 18-24 cm. All the studied samples were measured and the average value was 21 cm. Grain was also analyzed. According to the results of the analysis, the color is oblong-oval, brown, and the shell (husk) of the grain accounted for 36-46% of the total weight.

Among the studied varieties, this variety has small grains compared to the Daulet variety, and it was found that 1000 grains averaged 23 g. According to the results of studies on the productivity indicator, it was found that an average of 61.3 centners of grain and 200-258 centners of blue stalks can be obtained from 1 hectare.

According to the results of our experiments, when we studied the economic and biological characteristics of the rich corn variety, it was found that the shape of the grains is round and white. The location of the furrows was also dense, and the length was 19-25 cm. All the studied samples were measured and the average value was 22 cm. Grain was also analyzed. According to the results of the analysis, the color is white, light yellow, and the shell (husk) of the grain accounted for 30-36% of the total weight. Among the studied varieties, this variety has large grains compared to the Daulet variety, and it was found that 1000 grains averaged 24 g. According to the results of studies on the productivity indicator, it was found that an average of 63.5 centners of grain and 320-400 centners of blue stalks can be obtained from 1 hectare of land.

In short, the sowing dates have a direct effect on the productivity indicators, and the optimal period is the third decade of April.

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