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## EFFECT OF SOWING RATE ON THE QUALITY OF SEEDS OF WINTER WHEAT

**Abstract:** In all the options, relatively high indicators for the germination of seeds and germination energy were observed under the norm of sowing 2 million sowing seeds, in these versions, the germination and energy of the grooves exceeded 0.4-1.1 and 0.5-3.1% compared to other options.

Under the use of high doses of mineral fertilizers, the yield of seeds was in the grade of Chillaki 78.1 c / ha, in a Kroshka 77.9, a method of research / hectares, in the grade of solid wheat Kakhrabo 76.9 c / ha.

Due to the sowing of high-quality seeds, the grain harvest was in the Chillaki cultivar of winter wheat 18.1-46.8 c / ha, in a sort of Kroshka 18.0-48.7 c / ha, in Kakhrabo grade 2.0-39.9 c / ha.

**Key words:** seeds, seed quality, sowing quality, germination, germination energy, growth force, alignment, seed faction.

**Language:** English

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### Introduction

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Scientific research on the study of growth and development, potential crop opportunities, improving and improving seed quality grain of winter wheat conducted at leading scientific centers of foreign countries as an agricultural department of the United States of America (USA), China Academy of Agricultural Sciences (China), Dept. Of Plant Sciences Kings College London (England), Krasnodar Research Institute of Agriculture named after

P.P.Lulukyanenko.

The basic indicators of the quality of winter wheat seeds for different years on irrigated lands of the republic and abroad was studied by V.V.Gritsenko [6], K.E.Ovcharov [7], G.K.Kurbonov [8], B.M.Azizov [1, 2, 3].The positive effect of mineral fertilizers on the technological quality of grain was studied by R.I.Siddikov, N.Khalilov and others [9]. Communication with this study of sowing and yields of seeds are of great importance.

For intensive growth and development, for the formation of fruit elements of varieties with winter

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soft wheat Chillaki, it is advisable to suite high-quality seeds with a fraction of 3.0 mm, for solid wheat varieties Kakhrabo - seed fraction 2,5 mm. It has been established that the quality of seeds has a positive effect on the grain yield of winter wheat. There are relatively high grain yields of winter wheat during seeds with a fraction of 2.5-3.0 mm. The greatest grain yield of 70.3 c / ha was marked at a Kroshka variety when sowing high-quality seeds of 3.0 mm, harvesting due to the quality of seeds amounted to 18.1-48.7 c / ha.

According to data of B.M.Azizov, B.A.Isroilov, M.B.Nazarova, Z.Askarova, 195-213 pieces of sprout per 1m<sup>2</sup> area were sown when 1.7 mm seeds were sown in May, 417 seeds were sown when large 3.0 mm seeds were sown, 429 pieces sprouted. Due to the quality of seeds, winter wheat yielded 18.1-46.8 c/ha in Chillaki, 18.0-48.7 c/ha in Kroshka and 2.0-39.9 c/ha in Kakhrabo. Due to the quality of the seeds, the amount of gluten in the grain increased by 1.0-2.3% [4].

The growth and development of autumn wheat depends to some extent on the quality of the seeds. Planting quality seeds ensures that the seeds germinate and grow quickly in a short period of time [10].

### Methods and materials

Experiments are given soil-climatic conditions for the place of experience. Characteristics of meadow-sierozem soils of training and industrial economy, the villages of Kuygan-Yar, Andijan district, Andijan region, and typically sierozem soils of the Tashkent Economic and Industrial Economy, the Kibray district of the Tashkent region.

The climatic conditions of the Andijan and Tashkent region. The soil of experienced sections with meadow sierozem and a typical sierozem of a long-standing irrigation, the mechanical composition is medium lung. Locking groundwater is 2-3 meters and below 5 meters, not saline.

The content of humus in arable and subfall layer is 0.9-1.2%. By the provision of soil with nutrients, these soils relate to the mid-fertile soils soil acidity Neutral pH at 6.5-7.0.

The average annual air temperature is 14-160<sup>0</sup>C. Such climatic conditions in the area are considered optimal for the cultivation of winter wheat. Comparatively low temperatures are observed in winter periods, in January, the average monthly air temperature -3, -40<sup>0</sup>C ha, individual days can be reduced to -160, -200<sup>0</sup>C. And relatively high air temperatures are observed in the summer periods of the year. The average daily air temperatures 25-300<sup>0</sup>C,

separate days reach up to 40-420<sup>0</sup>C. Duration of warm days, high indicators of the amount of effective temperatures in the area show about large potential capabilities to obtain stable high crop yields.

In the experiment, options were sampled in four repetitions. The area of each version of 100 m<sup>2</sup>, of which, accounting is 50 m<sup>2</sup>, the protective area is 50 m<sup>2</sup>. In the experiment, the placement of options and repetitions, the conduct of phenological observations and accounting was carried out according to the method of B.A. Dospekhov (1985) "Methodology of Field Experience".

The content of humus in the soil is ophthels according to the method of I.V.Tyurin, the content of the total nitrogen and phosphorus according to the method of Keldal, K.E.GINSburg, G.E.Sheglova, E.V.Vilfius.

The content of nitrates in the soil is determined by the Method of Granval-Lyuja, moving forms of phosphorus on B.I. Machigina, potassium content according to the method of fiery colorimeter. In the experiment, the agricultural properties of the soil were determined by the method of G.I.Pavlova, N.I.Savinova, S.N.Rizhova.

The leaf area of a single plant and the total leaf area of winter wheat is determined by the method of Hispiece Academician A.A.Nichiparovich.

In the experiment, the glassy grain is determined according to SST 10987-76 at the peel of special DZ-2 devices. The content of protein in the grain is determined by Kletel. Content and quality of gluten with special Idk-1, Pack 3A.

Phenological observations were conducted in the first days of the month. In early March, April, May and June, in the accounting area of each defense in certain plants, 50 plants with each variant. Accounting was conducted in the accounting area in each variant. Accounting is carried out in each options. Begin at the beginning of a certain phase of development and is carried out through every 2-3 days, it continues until a plant is in a 50%.

### Results and discussion

Biological basis of improving the quality of seeds are described on the concept of quality of seeds, the main indicators of seed quality: the purity of seeds, the value viability, suitability, increase strength, vigor, uniformity, the basic requirements of standard quality seeds, regularities of the quality of seeds, the impact of farming practices on the quality of seeds, the impact of plant density and area of nutrition on the quality of seeds, the impact of the norms of mineral fertilizers on the quality of seeds.

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**Table 1. Influence of seeding rates on quality of winter wheat seeds**

No	Varieties	Norm planting, mln.ha	Weight of 1000 pieces grain/gr	Seed cleanless %	The energy of germination, %	Germination %	The strength of growth, g
1	Chillaki	2	44.8	99.0	96.5	96.5	5.7
2		4	42.6	99.2	96.5	96.5	5.8
3		6	43.5	99.2	84.0	95.0	6.1
1	Kroshka	2	41.9	99.2	98.0	98.0	7.0
2		4	40.9	99.2	97.5	97.5	5.8
3		6	40.4	99.1	97.0	97.0	6.9
1	Kakhrabo	2	34.5	98.3	97.2	97.4	4.7
2		4	34.7	98.7	97.3	98.0	3.7
3		6	33.7	98.0	98.0	98.0	4.6

The results of these experiments indicate that seeding rates in the different varieties have different effects on seed quality.

In the experiment on seed purity significant difference was observed between the variants. In all the studied variants of seed purity were within the standard requirements.

On seed size, ie, weight of 1,000 seeds relatively high levels were observed in grade Chillaki 44.8 grams, 41.9 grams Kroshka grade at 2 million hectares sowing sowing seeds in grade Kakhraba 34.7 grams of 4 million hectares during sowing sowing seeds.

By germination energy and total germination relatively high rates in grade Chillaki grade and 96.5% Kroshka 97.5-98.0% observed at lower rates sowing 2-4 million. Hectare of sown seeds. In contrary Kakhraba grade high rate of 98% is noted at 6 million hectares of crop sown seeds.

One of the important indicators of the quality of seed is an alignment, i.e. the same dimensions. Seed leveling indicate its conditioned fitness. The largerness, the higher the crop of seeds.

Sowing aligned seeds improves the quality of sowing, provide uniform shoots.

The influence of the quality of seeds on the crop and the quality of wheat grain. Limited on the positive effect of the quality of seeds on the dense of the standing, the process of growth and development of plants, the formation of wheat harvest, on yield and technological quality of grain of winter wheat. Sowing high-quality seeds makes it possible with minimal expenses to obtain stable high and high-quality field crops yields.

The quality of seeds is depends a certain extent on the size and size, i.e. From the size or smallness of the sowing material.

Conducted experienced data showed that the quality of seeds, the field germination positively affects the population of the standing of plants. In the experiment in the crop of small seeds 1.7 mm, the field germination was 32.5% in the class of Chillaki, in a variety of 35.5% Kroshka, in a grade of solid wheat Kakhrabo 38.0%.

**Table 2. Effect of seed quality on wheat standing thickness**

No	Cultivars	Seed faction grade, mm	Norm planting, million pieces	Field germination of seeds, %			The number of plants per 1 m <sup>2</sup>		
				2003	2004	Middle	2003	2004	Middle
1	Chillaki	1.7	6	32	33	32.5	192	198	195
2		2.0	6	47	45	46.0	282	270	276
3		2.5	6	58	56	57.0	348	336	342
4		3.0	6	70	71	70.5	420	426	423
5	Kroshka	1.7	6	36	35	35.5	216	210	213
6		2.0	6	48	50	49.0	288	300	294
7		2.5	6	60	62	61.0	360	372	366
8		3.0	6	72	71	71.5	432	426	429
9	Kakhrabo	1.7	6	39	37	38.0	234	222	228
10		2.0	6	50	53	51.5	300	318	309
11		2.5	6	71	73	72.0	426	438	432
12		3.0	6	69	70	69.5	416	420	417

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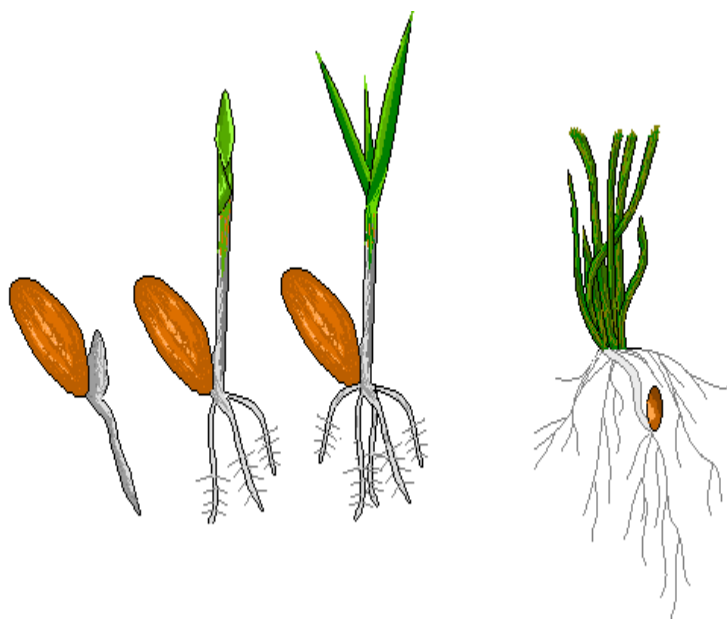
When sowing seeds with a size of 2.0 mm, the field germination of seeds was in the class of Chillaki 46.0%, in the grade of a Kroshka of 49.0%, and in the grade kahrabo 51.5%. When sowing seeds with a size of 2.5 mm, the field germination of seeds was in a class of Chillaki 57.0%, in a variety of a Kroshka 61.0%, and in the Kakhrabo variety 72.0%.

In the experiment, relatively high indicators on the thickness of the standing plants are marked in the grade of Chillaki and Kroshka when sowing larger seeds with a size of 3.0 mm. In the Kahrabo variety

when seeds are saturated with an average 2.5 mm magnitude.

When sowing large seeds with a size of 3mm, the number of plants on 1 m<sup>2</sup>. Massed in a variety of winter wheat Chillaki 423 pieces, in a Kroshka of 429 pieces, in the grade Kahrabo 417 pieces. The highest indicator of 432 plants per 1 m<sup>2</sup> of the area is marked in the sort of Kahrabo when sowing seeds with a size of 2.5 mm.

Thus, it is necessary to use from high-quality seeds with a size of 2.5-3.0 mm to obtain sufficient quantity of standing.



Picture 1. Seed germination of winter wheat

Biological basis The formation of technological qualities of grain of winter wheat is described the influence of various factors on the technological quality of grain, the main requirement for the quality of the grain of winter wheat, the content of protein in the grain, the amount of gluten, the glass of grain, the amount of bread; Standard requirement to technological qualities of wheat grain, dependence of the technological qualities of grain from the hereditary properties of the variety, the dependence of the technological qualities of the grain from climatic conditions, the reasons for the decline in grain quality.

The climatic conditions of the year and the weather are essential affecting the technological properties of winter wheat grain. Grain glassy glance: 60% depends on climate, by 18% of agrotechnical measures, 22% of other factors provided.

The amount of protein and gluten in the grain: 32% of weather conditions, 57% of agrotechnical events, 11% of other factors provided.

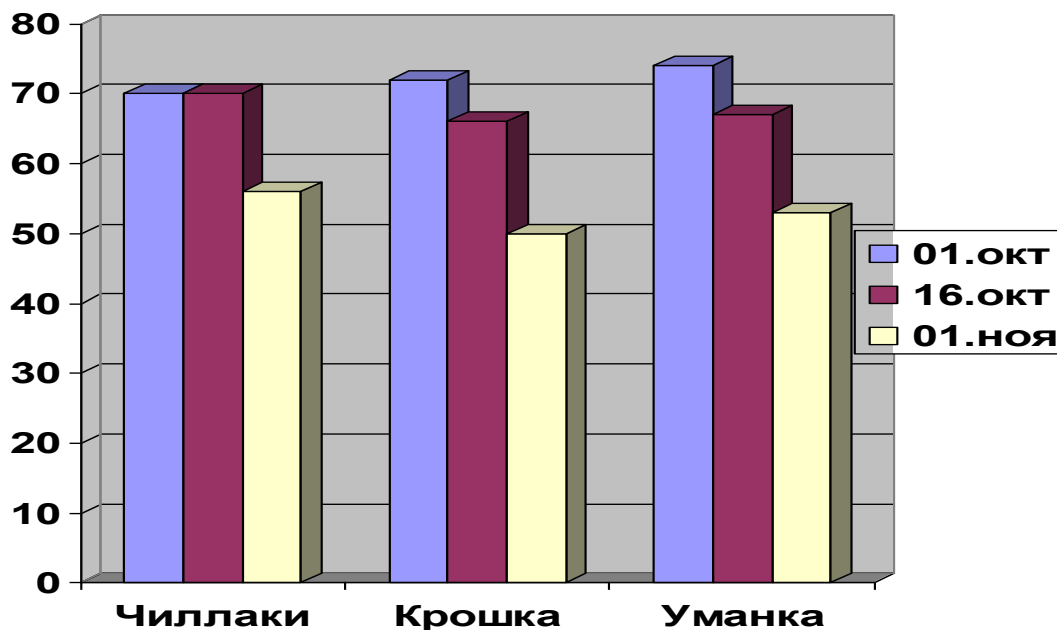
Power of flour: 33% of weather conditions, 31% of agrotechnical events, 36% of other not provided factors. The reasons for which lead to a decrease in the technological properties of grain are divided into three groups: first-selection factors; Second-agrotechnical factors; The third reason is climatic conditions.

Selection causes - sowing varieties with low technological qualities. Also sowing seeds with low varietal and sowing qualities.

Agrotechnical factors - disruption of crop rotation, impairment of sowing, nitrogenous starvation of plants, late in harvesting grain harvest. Soil climatic conditions - low soil fertility, low nitrogen content in the soil, rainy climatic conditions, low temperature.

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Picture 2. Influence of sowing dates on seed germination of winter wheat, %

### Conclusions

• In all studied grades for germination, the energy of germination and alignment of seeds, the highest rates are marked at the rate of seeding 6 million sowing seeds. In these options, the germination of 0.4-1.1%, energy germination by 0.5-3.1% exceeded from other options.

• The norms of mineral fertilizers have a positive effect on the size and mass of 1000 pieces of seeds. In

all studied varieties of winter wheat, relatively high seed yields 76.9-78.1 c / ha with high norms of mineral fertilizers.

• The use of high-quality seeds allows an increase in the yield of grain of winter wheat in the class of Chillaki at 18.1-46.8 c / ha, at 18.0-48.7c / ha, Kahrabo on 2.0-39.9 c / ha.

• When cropping, high-quality seeds there is an increase in gluten in grain at 1.0-2.3%.

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