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SOI: [1.1/TAS](#) DOI: [10.15863/TAS](#)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2021 Issue: 09 Volume: 101

Published: 30.09.2021 <http://T-Science.org>

QR – Issue



QR – Article



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THE INFLUENCE OF THE SEED QUALITY ON THE THICKNESS AND YIELD OF AUTUMN WHEAT GRAIN

Abstract: According to results of experiments, it is necessary to sow high-quality seeds with a size of 2.5-3.0 mm for intensive growth and development in the field, in order to obtain a sufficient number of seedlings, ensuring a high and high-quality grain yield.

In the experiment, comparatively high rates of seed germination of 71.5% were noted in the Kroshka variety in the condition of sowing seeds of 3.0 mm. In the experiment, the highest grain yield of 70.3 c/ha was observed in the Kroshka variety when sowing 3.0 mm of seeds.

Key words: grain quality, *Triticum durum*, variety, experiment, yield, fraction, seed germination, additional harvest, the number of seedlings.

Language: English

Citation: Azizov, B. M., Isroilov, B. A., Nazarova, M. B., & Zikiryoieva, K. F. (2021). The influence of the seed quality on the thickness and yield of autumn wheat grain. *ISJ Theoretical & Applied Science*, 09 (101), 741-743.

Soi: <http://s-o-i.org/1.1/TAS-09-101-103> **Doi:**  <https://dx.doi.org/10.15863/TAS.2021.09.101.103>

Scopus ASCC: 1100.

Introduction

UDC 633.111.1; 633.112.1

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 [1; 2; 3].

The influence of seed quality on the growth and development of autumn wheat varieties in the country has been insufficiently studied and little is known.

The positive influence of seed quality on grain yield in our country in different years has been studied in the scientific works of G. Kurbanov, A. Omonov, Kh. Atabayeva and other scientists.

Numerous experiments have also shown that the effect of soil moisture and temperature on the field

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germination of seeds in other species has been discussed [5].

However, most of the literature is limited to seed quality indicators, standard requirements for them and their description.

There is no scientific evidence on the positive effect of seed quality on grain yield. In this regard, scientific research in this area is of great scientific and practical importance.

According to data of B.M.Azizov, B.A.Isroilov, M.B.Nazarova, Z.Askarova, 195-213 pieces of sprout per 1m² 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].

Methods and materials

Experiments have shown that seeds of different sizes have a positive effect on plant formation and grain yield. Field experiments were carried out in the conditions of typical irrigated gray soils of the Kibray district of the Tashkent region. The experiments were conducted in the experimental section of the Tashkent State Agrarian University. The soils of the experimental plot are typical sierozem soils of old irrigation.

Field and laboratory research, records, and phenological observations were carried out following generally accepted methodological guidelines. The experiment was set up, the statistical processing of the yield data was carried out by the method of analysis of variance according to the method of B.A. Dospekhov (1985)

During the growing season, biometric records and observations of plant growth and development were carried out.

In the experiment, it was used different fractions 1.7 2.0; 2.5 3.0 mm of winter wheat Kroshka, Chillaki and durum wheat Kahrabo; The influence of seeds of fraction 3.0 mm on the growth, development and

formation of elements of the yield of various varieties of winter wheat has been studied. The experiment consisted of 12 variants and was carried out in four replications.

The experiments were carried out on the basis of "Methodology for conducting field experiments" by B.A. Dospekhova (1981).

Results and discussion

Calculations of seed germination and seedling thickness were carried out in accordance with the working program. Seed germination: 75% from the beginning of germination to the end of germination, calculations were made every 2-3 days. Seedlings were thickened in autumn, early spring and in the phase of maturation of development.

Experimental data on the effect of autumn wheat on seed quality on seedling thickness are shown in Table 1.

Experimental results show that seed quality has a positive effect on seed germination and seedling thickness. In experiments, field germination of seeds in variants with a fraction of 1.7 mm was 32.5% in Chillaki, 35.5% in Kroshka and 38% in Kahrabo. In the option with a seed size of 2.0 mm, field germination was 46.0% in Chillaki, 49% in Kroshka and 51.5% in Kahrabo. In the option with seed size of 2.5 mm, field germination was 57.0% for the local winter wheat variety Chillaki, 61.0% for the Kroshka variety and 72.0% for the Kakhrabo variety.

In the experiment, a relatively high field germination rate was 70.5% in Chillaki varieties and 71.5% in Kroshka varieties with large seeds of 3.0 mm fraction and 72.0% in Kakhrabo durum wheat variety. Seeds of 2.5 mm were observed under sowing conditions.

The results of the experiments carried out that field germination of seeds depends primarily on the accumulation of spare nutrients in them. Because large seeds have more nutrients, which in turn has a positive effect on the seed germination. In durum wheat varieties, it is advisable to sow seeds with a fraction of 2.5 mm, depending on the characteristics of the variety.

Table 1. Effect of seed quality on seedling thickness

№	variety	Seed fractions, mm	Sowing norms, c/ha	field germination of seeds, %	Plant quantity in 1 m ² , pcs	Grain yield, c/ha
1	Chillaki	1,7	6	32,5	195	20,0
2		2,0	6	46,0	276	33,1
3		2,5	6	57,0	342	48,7
4		3,0	6	70,5	423	66,8
5	Kroshka	1,7	6	35,5	213	21,6
6		2,0	6	49,0	294	35,0
7		2,5	6	61,0	366	52,2
8		3,0	6	71,5	429	70,3

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9	Kahrabo	1,7	6	38,0	228	18,1
10		2,0	6	51,5	309	31,2
11		2,5	6	72,0	432	53,0
12		3,0	6	69,5	417	51,0

The seed quality was also reflected in the seedling thickness in the field. In the experiment, the thickness of the seedlings was determined from the calculation of the number of plants per 1 m² of the calculated area. In all cultivars studied in the experiment, relatively low values of seedling thickness were observed in variants sown with small fractional seeds. The number of plants per 1m² of the field was 195 for the Chillaki variety, 213 for the Kroshka variety and 228 for the Kahrabo durum wheat variety. When sowing seeds with a size of 2.0 mm, the number of plants per 1 m² was 276 for Chillaki, 294 for Kroshka and 309 for Kahrabo.

In the experiment, relatively high values of seedling thickness were observed in varieties Chillaki and Kroshka with large seeds of 3.0 mm and in varieties Kahrabo with average seeds of 2.5 mm. When sowing large seeds, the number of plants per 1 m² was 423 in Chillaki, 429 in Kroshka and 417 in Gahrabo. The greatest thickness of seedlings was

observed when sowing 2.5 mm seeds of the Kahrabo variety, 432 seedlings per 1 m².

Therefore, it is recommended to sow seeds 2.5-3.0 mm in the field in order to achieve sufficient germination thickness.

The quality of the seeds also has a positive effect on the yield of autumn wheat. In the experiment, relatively high rates were observed in all studied variants in variants with large seeds of 3.0 mm. The highest grain yield was 70.3 c / ha when sown with large 3.0 mm seeds of the Kroshka variety.

Conclusion

Planting quality seeds will ensure healthy seedlings in a short time. The quality of the seeds ensures the rapid growth of the grass. A relatively high seed germination was observed in the experiment, when 71.5% of the Kroshka variety was sown with a large seed fraction of 3.0 mm. In the experiment, the highest grain yield was 70.3 c / ha when sowing large seeds of 3.0 mm variety Kroshka.

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