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**THE EFFECT OF GRAIN MOISTURE ON GRAIN GERMINATION
 DURING GRAIN STORAGE**

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ABSTRACT

In this article, the quality indicators of seed materials in the preparation for planting autumn seeds were analysed. The importance of sorting seeds according to state standards for moisture, purity, fertility and other indicators, a serious approach to the storage of seed materials and timely qualitative preparation has been studied.

KEYWORDS: *Quality Grain Seeds, Grain Moisture Level, Seed Sorting And Preparation, Legumes, Grain Quality Indicators.*

INTRODUCTION

Satisfying the demand of the population for grain and grain products in our country, the supply of quality grain seeds to farmers and farms is a guarantee of a rich harvest. Proper organization of quality processing and storage of grain in accordance with the requirements of state standards, timely delivery to farms and dehqan farms will further increase the attention to the quality of this seed.

In view of the above, after harvesting the seed wheat, it is necessary to store and process it in accordance with the requirements of the state standard before giving it to farms and dehqan farms for planting. A standard is a normative and technical document on standardization approved by a special organization that sets a set of rules, procedures and norms for standardization objects [1].

THE MAIN PART

Seeds intended for sowing must meet the requirements of state standards. The seeds to be sown must be large, flat, well-ripened, free from weed seeds, free from disease, and in good condition for germination and cleanliness. Class I and II seeds must be obtained for seeding. The weight of 1000 grains of seeds should be 40-45 g and the growth rate of seeds should not be less than 90-92%. When quality seeds are sown, they have high germination, number of bushes and winter hardiness. Grain sorting and treatment equipment is very important in the production of quality seed material. Seed sorting and preparation in the seed shops of the republic is carried out with the help of Petkus K547A equipment created on the basis of advanced German technology. Petkus K547A is a high-efficiency air sieve separator for pre-, primary and secondary cleaning of grain, rice, corn, buckwheat, oilseeds and legumes. The machine has a sieve system and two air separators, which are connected to the central pump or to the cyclone together. Together with Petkus K236, it is designed to process the seeds of cereals, oilseeds and legumes. According to state standards, the processed seed must meet the requirements of varietal purity, seed generation, etc.

For example, the purity of wheat seeds is required to be at least 95%. This requirement is due to the fact that good zoning of the variety is an important factor in the production of hybrids and high yields. Generally, the higher the varietal purity of the seed, the better the yield characteristics of the variety or hybrid; the sowing quality of a seed is the sum of its characteristics that characterize its suitability for sowing.

These quality indicators include the purity of the seed from various wastes, germination, germination capacity, purity from diseases and pests, growth strength, weight of 1000 seeds, etc.

The sown seed should not only have high sowing qualities and variety, but also high yields. The productivity of a seed is its ability to produce a certain amount under certain production conditions. This feature is not only an internal (hereditary) trait of the variety (hybrid), but also depends on the growing conditions of the plant, methods of care, processing and storage, as well as the quality of seeds and sowing.

The seeds combine the biological and economic characteristics of the plant, which are passed on to future generations. Therefore, the quantity and quality of the product obtained when sowing seeds depends on the seed [2].

In determining the quality indicators of seeds (germination, purity, moisture, weight of 1000 grains, etc.) for analysis separately from the seeds prepared for sowing on farms, seed production organizations, each batch average samples (from dried, cleaned, sorted seeds treated against disease and pests) are taken. Laboratory analyzes were conducted in 2018-2020 to determine the effect of moisture of seeds stored in warehouses on germination. The winter wheat varieties Krasnodar-99, Semrug, Alekseich were studied (Table 1).

TABLE 1. EFFECT OF SEED MOISTURE ON GERMINATION DURING STORAGE OF WINTER WHEAT VARIETIES

№	Selection variety	Years of analysis											
		2018				2019				2020			
		Humidity, %		germination of seeds, %		Humidity, %		germination of seeds, %		Humidity, %		germination of seeds, %	
		In fact	Standard requirements	In fact	Standard requirements	In fact	Standard requirements	In fact	Standard requirements	In fact	Standard requirements	In fact	Standard requirements
1	Krasnodar-99	14,2	14	94	95	14,5	14	93	95	15,1	14	90	95
2	Semrug	14,3	14	93	95	14,6	14	94	95	15,2	14	89	95
3	Alekseich	14,2	14	95	95	14,7	14	94	95	15,4	14	91	95

Experiments have shown that the moisture content and germination of grains depend on the variety. In 2018, the moisture content of the varieties was actually 14.2-14.5-15.1% in the Krasnodar-99 variety, while the yield in those years was 94-93-90%. Semrug variety was 14.3-14.6-15.2%, and its yield in these years was 93-94-89%. In the Alekseich variety it was found that the difference between the varieties changed significantly, with a yield of 14.2-14.7-15.4%, and the yield in these years was 95-94-91%.

CONCLUSION

Based on the data obtained, it can be noted that during the storage of winter wheat varieties, the degree of germination decreased with increasing moisture content of the grain. It has been found that during the storage of seed grains, its moisture content should not be allowed to increase. It is recommended that the moisture content of winter wheat varieties should not exceed 14% during storage of seed materials. Therefore, it is recommended to follow the following when obtaining high and quality yields from crops.

- Sown seeds should be large, flat, well-ripened, free from weed seeds, free from disease, meet the standard requirements in terms of fertility and cleanliness.
- High productivity and variability of grain quality.

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