

# Agro Technology of Cultivation of Winter Wheat in Meadow Alluvial Soils of Bukhara Region

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**Annotation:** *We know that the soils of Bukhara region belong to the Zarafshan district of the Republic. Cultivation of the lands of this district has its own peculiarities. Variability in the amount of salts in the soil requires extreme vigilance from industry experts and our farmers. We wrote the article based on our theoretical knowledge of field studies, soil science and botany, as well as our field research. This article covers the technology of grain growing in the Bukhara region, the hard work of our farmers, field experience, the positive results achieved.*

**Keywords:** *Soil, phosphorus, potassium, nitrogen, mechanical composition, irrigation period, growth period, vassa, starshina, kroschka, polovchanka.*

## Introduction.

Depending on the level of supply. Grain crops are grown mainly for bread. It's hard to imagine our daily lives without bread. Wheat bread is one of the greatest inventions of mankind. Therefore, scientists are interested in any measure aimed at stabilizing grain yield, quality, gross grain yield. Bread is a staple food, a delicacy of our table. President Islam Karimov said that "it is superfluous to talk about full economic independence without achieving grain independence." Most importantly, achieving grain independence is also about Uzbekistan's economic independence.

From the first years of independence, great attention has been paid to the development of grain growing in the country. recommended for planting in pots. In general, 47 varieties of winter soft wheat, 9 varieties of autumn durum wheat, 3 varieties of spring soft wheat and 2 varieties of spring durum wheat have been registered in the country.

## Autumn wheat sowing.

Early harvesting of past crops for timely weeding, fertilization, soil preparation for sowing and sowing of winter wheat in optimal terms. is taken. Crop rotation on irrigated lands gives good results after the placement of winter wheat after three years of alfalfa, cotton, corn sown in grain and silage, legumes, potatoes, vegetables, melons. Winter wheat is a good predecessor for irrigated crops, corn, vegetables, melons, potatoes, fodder crops, root crops, and legumes.

Fertilize. Autumn wheat is very demanding on soil fertility and fertilization. It absorbs 3.7 kg of nitrogen, 2 kg of phosphorus and 2.3 kg of potassium to produce 1 s of grain and accordingly straw, fertilization increases the yield of winter wheat in all types of soils. When winter wheat yields 60 c / ha, the average nutrient requirements are 200-220 kg of nitrogen, 60-80 kg of phosphorus and 130-140 kg of potassium.

But it depends on the moisture content, variety, level of mineral nutrition. When winter wheat is grown on irrigated lands, it is very demanding on mineral fertilizers, especially nitrogen fertilizers, and the plant absorbs the most nitrogen during the germination and germination phases. During this period, when nitrogen is in the diet, the spike grows well, and the number of spikes and grains in it increases. In the cultivation of winter wheat on irrigated lands, the amount of annual fertilizers is determined, taking into account the agrochemical cartogram, varietal characteristics of the predecessors. In the typical gray soils of the region, the recommended annual rate of mineral fertilizers is 450 kg of nitrogen, 250 kg of phosphorus and 150 kg / ha of potassium.

Basic fertilization. Mineral and organic fertilizers - manure, compost - are widely used in the cultivation of winter wheat, the main fertilizer, the norms of their application vary depending on soil conditions and varieties.

Basic fertilization is carried out before sowing. Rotten or semi-rotten manure is applied at 20-40 t / ha before plowing. Applying 20 tons of rotten manure per hectare yields an additional 10-15 sr of grain. If there is enough manure, 60 tons per hectare will give good results. Once the manure is applied, it is plowed immediately. If the soil is not plowed after fertilization, 30% of the nitrogen in the manure will be lost within a day or two.

## Methods

The application of phosphorus fertilizers in the main fertilization also increases the quality of the crop. Adding phosphorus and potassium fertilizers as the main fertilizer gives good results before plowing.

The best results are obtained when organic, phosphorus and potassium fertilizers are applied before plowing. The annual rate of mineral fertilizers is distributed as follows: phosphorus fertilizers 80%, all potassium fertilizers are applied before plowing, 25-30% nitrogen with pre-sowing cultivation, 20% phosphorus with rows before planting fertilizers are given. 70-75% of nitrogen fertilizers are applied twice in early spring. Feeding 20% of the annual nitrogen fertilizer rate in the spring due to spring feeding improves the quality of grain and straw, increases the plant's resistance to rust.

In the cultivation of winter wheat, it is important to apply 50-70 kg of granulated superphosphate per hectare, or 30-40 kg of ammophos per row. In many experiments, granulated superphosphate was applied on non-irrigated lands at an additional grain yield of 2.7-3.4 sr per 50 kg per hectare. Applying 30 kg of ammophos per hectare at planting increased the yield by 5.2 s / ha.

Nutrition. Intensive winter wheat varieties misted on irrigated lands are in great demand for mineral fertilizers. Applying nitrogen fertilizers several times during the growing season will increase their efficiency. Nitrogen fertilizers, applied in several doses, ensure good wintering of the plant, increase its resistance to lodging, yield and grain quality.

Under production conditions, when feeding winter wheat in the spring, it is not always possible to distribute the fertilizer evenly over large areas at the most convenient times. Therefore, farms use special SZ-3.6 and SZP-3.6 seeders, which are adapted for burying fertilizers in the soil when feeding winter grain crops. Fertilizers are applied at a depth of 4-6 cm between rows. The use of German LEMKEN seeders gives good results.

Soil cultivation. The system of tillage in irrigated lands, winter wheat fields takes into account the soil and climatic conditions of the regions, predecessors, field contamination with weeds, water-physical, chemical properties of the soil, the degree of its cultivation, the structure of the tillage layer and other factors. developed.

In the irrigated lands of the region, fields for winter wheat are plowed to a depth of 25-27 cm. One of the important conditions for high yields of winter wheat is the cultivation of past crops under high agro-technical conditions and timely harvesting. The period between harvesting and plowing should not be long. If this period is prolonged, the soil may become very dry. When the soil is sufficiently moist when plowing, the addition of a harrow and mulch to the aggregate after the plow makes the soil a flat fine, granular, forming a soft layer of soil.

Irrigation regime. Many years of experience and practice show that water is the main determinant of high yields in the Bukhara region. Winter wheat uses water evenly during the growing season. The plant consumes an average of 850-900 m<sup>3</sup> / ha in autumn, 1162-1230 m<sup>3</sup> / ha in winter and 3834-3799 m<sup>3</sup> / ha in spring and summer (N. Khalilov, 2005).

**Analysis.**

Irrigation methods. Irrigation and irrigation of winter wheat are common. The next step is to irrigate the soil by plowing the fields. When irrigated along the ridges, the soil is evenly moistened from the bottom and walls of the furrow. This method saves water, prevents the formation of crusts around the plant, and evaporates less water from the soil. In order to get a high yield from winter wheat, it is necessary to provide the plant with an optimal amount of water during its growth and development. To do this, with moisture-accumulating irrigation and irrigation during the growing season, it is necessary to maintain a limited field moisture capacity of 60% in light, 70% in medium and 80% in heavy soils with limited soil moisture. If the soil moisture falls below the specified amount, the water supply to the plant will deteriorate.

**Wheat seed quality indicators :**

es	Class	Seed purity , %		A mixture of seeds of other plants			
				1 kg of seeds, pcs		forgetfulness, %	
		Soft Wheat	Hard Wheat	all	Weed seeds	soft wheat	Hard wheat
I	99	99	10	5	95	90	
II	98	98	40	20	92	87	
III	97	97	200	70	90	85	

**Sowing dates.**

The timing of sowing is important among the factors that affect the growth and development of winter wheat, winter hardiness and yield. Plants planted at optimal times accumulate well before winter and form 4-5 stems, accumulate enough sugars and other preservatives and overwinter well. It is less sparse in the spring and summer, the number of well-developed large grains produces more spikes and provides the highest yields.

**Discussion.**

When winter wheat is planted late, it weakens into winter. They do not accumulate until winter, they become very sparse during the winter, growth and development are delayed in the spring, and yields are reduced.

In irrigated lands, the optimal sowing times are determined in each district, on the farm, depending on the variety, soil, its moisture and fertility, weather conditions.

Planting methods. Winter wheat is planted in rows (rows 15 cm), rows (rows 7.5 cm), double rows. Narrow row planting is an advanced method. In this case, the plants are evenly distributed in the area. When the soil has enough moisture and nutrients, they grow and develop well, make good use of light, moisture, nutrients, do not compress each other, accumulate and have high productivity. In this case, the plants are less compressed by weeds, and soil moisture is depleted.

Planting standards. Sowing times also affect planting norms. When the sowing period is delayed, the sowing rate is increased. In late plants, the coefficient of accumulation of seeds is low, and their resistance to adverse autumn-winter conditions is low.

**Conclusion.**

Winter wheat requires deeper sowing of seeds. When the seeds are buried deep, the accumulation node is deeper and the plant's winter hardiness increases. The resistance of the soil to sprouting grass depends on its mechanical composition. Therefore, in heavy clay soils the seeds are sown at a depth of 4-5 cm, in medium sandy soils the seeds are sown at a depth of 5-6 cm, in light soils at a depth of 7-8 cm. When the surface layer of the soil is very dry, the seeds can be sown in light soils to a depth of 8-10 cm.

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