



## TECHNOLOGY OF CULTIVATION AND CULTIVATION OF SUGAR BEET.

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**ABSTRACT:** Considering that sugar beets are quite popular in agriculture, their cultivation can bring a good income. However, for this it is necessary to strictly follow the recommendations of specialists.

### INTRODUCTION

By and large, the technology of cultivation of sugar beet is almost identical to the cultivation of a table analogue. It is required to choose beds with suitable soil, sow seeds on time, water and fertilize seedlings, hilling and prevent plant diseases.

### Preparation and processing of soil for planting.



Soil cultivation is carried out in three stages: spring-summer, between crops and vegetative (loosening). The main task in soil cultivation is the elimination of weeds, saturation with moisture and its preservation, the creation of potentially convenient prerequisites for crop growth. The best option for the cultivation of sugar beets to give a positive result is semi-steam or improved soil preparation technology.



The first option provides for peeling the soil to a depth of 300 mm immediately after harvesting the previously planted crop. After the emergence of sprouts of weeds, cultivation is carried out, and before frost it must be loosened. Such treatment helps to reduce the amount of weeds and saturation of the soil with moisture. Improved soil cultivation involves shallow (50-60 mm) stubble cultivation following harvesting of previous plants. Re-processing is carried out after 14 days at 120-130 mm depth, followed by harrowing. As it grows, weeds are destroyed by cultivation, and in the fall they are plowed 300 mm deep. In the spring, in order to obtain a good yield of sugar beet, the soil is loosened and sodium trichloroacetate is added to the soil (to eliminate root weeds). The next cultivation of the land is carried out right before sowing the crop. At this stage, herbicidal fertilizers are applied..



### **What and when to fertilize.**

In order to ensure the correct and rich color of the cultivated crop, prevent its diseases and increase productivity, it is necessary to timely and correctly introduce fertilizers of different groups. Mineral components are introduced in the autumn period under intensive plowing, in sowing - in rows in the fertilizing mixture and during irrigation. It is recommended to apply organics directly under the root crops. The formation of 1 ton of beets with tops from the soil takes about 6 kg of nitrogen, 2 kg of phosphorus and 7 kg of potassium. Achievement of yield indicators in the range of 35-40 kg / ha is possible with the use of an average dosage of fertilizers of the mineral group.



The most productive method will be the introduction of nutritional supplements in approximately equal proportions. Fertilization of sugar beet is good for organic components or complex compounds. Used nutritional supplements: Manure (compost). It is applied directly under the beets. If the treated soil does not belong to acidic soils, it is possible to combine compost with mineral additives. A stable positive result is shown by the application of complex fertilizers (NPK) during the chilling of the soil. This method provides a significant increase in yield, while maintaining its taste and color. Superphosphates, precipitate, phosphate rock have proven themselves well. Saltpeter is usually added in combination with the components of the phosphorus-potassium group. Nitrogen water, kainite, boron-manganese supplements are also used. Row fertilization stimulates the germination of young shoots, helps to resist diseases and pests. It is best to apply in rows, dosed, nitrogen, phosphoric acid, potassium oxide in a proportion of 10/20/10 kg per hectare. If, when plowing the soil, insufficiently complete equipment is supplied with fertilizers, the deficit is replenished with top dressing, the introduction of a phosphorus-nitrogen group and potassium. The proper effect is given by feeding root crops with ammonia water or its anhydrous analogue.



Sowing of sugar beet is carried out simultaneously with the planting of early spring varieties of bread. The defining indicator for planting is the condition of the soil. Its consistency should be loose, saturated with the required amount of moisture, and have a temperature of 5-7 ° C. Sowing should be completed within 1-3 days, as late sowing negatively affects sugar levels and root crop yields. The culture in



question is planted with precision seeders, with the introduction of fertilizers and additives in a separate way. The width between the rows is maintained at 450 mm, and in irrigated areas up to 600 mm. Successful cultivation of sugar beet depends on the development of agricultural culture, the degree of germination of planting material, processing technology, varieties and number of pests. On soils with a high cultivation culture and adherence to the entire technological process, the number of seeds is taken at the rate of 18-20 pieces per meter

### **Crop care.**

After disembarkation, shoots appear in 12-16 days. During this time, weeds germinate, the soil is compacted. To avoid this, at the first shoots, surface harrowing is performed with a light tool.



After the appearance of the first formed leaves, the crops are re-harrowed to get rid of weeds and partial thinning. The creation of the optimal variant of the density of seedlings implies a bouquet, and special cultivators and devices for thinning are used. In problem areas, it is better to plant plants in a rectangular-square order, which will allow cross-processing. The final formation of the culture is carried out manually, removing excess shoots along with weeds. Ignoring or late carrying out this procedure affects the size of the harvest. An important point is that the sprouts must be planted evenly over the entire area. Too rare placement leads to a decrease in yield, deterioration of color and quality of root crops. To keep the aisles loose and clean, mechanized loosening is used.



## **Cleaning.**



Before the onset of the harvest season, the rows of plants open, the leaves acquire a light green hue. Harvesting of sugar beets begins when the lower leaves turn yellowish. The root of the sugar beet should be white. In fact, the ripening of beets is manifested in the termination of biologically active processes, which die out in late autumn (at the end of the growing season). In order to avoid the loss of part of the crop, the harvesting of sugar beets must be completed before frost. The use of mechanized complexes speeds up and simplifies the work process. This makes it possible to collect beets that have absorbed the maximum sugar content. The crop is harvested in several ways: By the flow method. Root crops and plant tops are transported by harvesting equipment to transport vehicles on the go. The fruits are immediately transported to storage sites, and the tops are sent to the places of ensiling or feeding. By transshipment method. This option provides for the reloading of beets from the harvesters into tractor trailers, which transport the root crops to the storage area. Then it is loaded into the necessary equipment, and the crop is transported to its destination. Stream-transshipment method. The method combines both of the above options. Some of the beets are temporarily stored in the field, the rest of the root crops are taken to storage sites. This method is used on farms with a certain shortage of vehicles. Separate harvesting of sugar beets is carried out by six-row machines, which include trailed equipment for harvesting tops and self-propelled vehicles for collecting root crops. The inclusion of tops at the beet roots should not exceed 3% in their mass; fine tuning of the harvesting



technique will be required. If the mass of the tops is greater, additional cleaning is performed manually, which increases labor costs.

### **Storage**

When harvesting by the transshipment method, the storage of sugar beets is carried out by the method of packing. The dug out crop is placed on flat areas (kagats), which should have a slight slope for water drainage. Sizes may be different, but for optimal



ventilation and access, it is recommended to make storage facilities with a height of 1.5-1.75 m, a base width of 6 m and an upper part of 3 m. The length is 10 m. Ultimately, a kind of trapezoid is formed. Initially, the site should be treated with a lime mortar, cleaned of debris and plants, and tamped. As the sidewalls of the piles are filled, sprinkle with damp earth. From above, the storage is covered with a blanket of reeds or straw. If there is a shortage of insulating material, the kagats form a triangular shape with smaller dimensions. It is worth noting that conditioned plants are placed in such storage facilities, having the correct color, without being affected by mold or rotting areas. The heap field is prepared in advance. The selected site is leveled using special equipment, cleaned of all foreign residues, rolled with rollers and disinfected with a lime solution. A couple of days before harvesting, the prepared area is divided into piles. Liquid beets are placed in piles for long-term storage, fruits with discoloration and some minor defects - in piles of average quality, rotten and spoiled root crops, are placed in short-term storages. Successful storage of sugar beets depends on constant temperature control in the piles, the optimal value of which is 1.3 ° C. Its increase leads to excessive release of moisture, the formation of foci of decay and beauty. For



these purposes, mercury or electronic thermometers are installed in the piles. A temperature rise in the pile, not associated with an increase in atmospheric parameters, indicates that storage is in the wrong mode. Also, the temperature in beet storages should not fall below 0 ° C. If such prerequisites arise, the piles are additionally insulated. If rotten, rotten, discolored and soft fruits are found, they are removed. In their place, good beets are laid, which are pre-treated with a lime mixture. To understand the change in the weight of root vegetables and the degree of decrease in sugar content, several nets with root vegetables are placed in each pile. They are preliminarily weighed. Then, periodically, the preponderance of the control grids is carried out, which makes it clear the percentage of weight and sugar loss. As a rule, this indicator is higher in small piles than in high piles. The introduction of organic and inorganic fertilizers will help protect root crops from pests. Growing sugar beets requires constant care from sowing to harvest and storage. In addition, attention must be paid to soil preparation, loosening and cultivation. Timely collection and proper storage of root crops also play a significant role in maintaining a healthy and sugar-rich harvest. Observing all technological processes, it is quite affordable to regularly increase the yield and sugar content of beets.

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