

Agrotechnology of Cultivating the Culture as a Repeat Cropping

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Annotation: The article presents information on agricultural technologies for growing mallow as a repeat crop on lands vacated by winter wheat.

Keywords: Mung bean, repeat sowing, soil fertility, mineral fertilizers, nitrogen, phosphorus, potassium, soil cultivation, agricultural technology.

Beans contain 24-28% protein, 2-4% oil, 46-50% starch, B vitamins, lysine, arginine, and are distinguished among legumes by their richness in protein and vitamins, and high calorie content. Beans are 1.5-2 times more nutritious than wheat, beans, peas, chickpeas, and rye, and 1.5 times more nutritious. The digestibility of protein in beans reaches 86%. In addition, beans contain macro- and microelements such as Mg, Ca, C, Na, Fe, Ma, Cu, B, Co, Ni, and I, and are rich in phosphorus salts. In some countries, salads are prepared from beans. In the pasta and confectionery industry, adding 30% of beans flour improves their quality. According to medical experts, the daily protein requirement of a middle-aged person is about 70-80 g. As is known, protein plays a special role in performing many functions in the body, improving the functioning of hormones, and in the activity of enzymes.

Mung bean is a high-yielding crop. On average, 60-80 t. of hay or up to 240-300 t. of green mass is obtained from one hectare. The amount of digestible protein in the green mass is two to three times higher than in corn leaves and stalks. Silage prepared by mixing corn with mung bean is distinguished by its high nutritional quality.

By following the rules of agricultural technology for mung bean cultivation, in particular, land

preparation for planting, planting dates and rates, timely irrigation and mineral fertilization, inter-row cultivation, and timely harvesting, the intended goal can be achieved based on recommendations developed by industry experts.

Mung bean is also planted as a green manure crop. When used as a green manure, cotton yields increase by 45-50 percent. Mung bean accumulates 50-100 kg/ha of biological nitrogen during the growing season. When planted in furrows, it also yields 15-18 t/ha of grain.

When mung bean is planted in repeated furrows, the first crop is harvested quickly, the field is irrigated, and when the soil is mature, it is plowed to a depth of 20-22 cm, harrowed, and mulched. If the soil has large clods, it is cultivated with heavy harrows or ring rollers. After the crops are cultivated, the inter-rows are cleared of weeds and well-cultivated, and the soil is prepared for planting by cultivating and loosening the soil to a depth of 10-12 cm without plowing, then harrowing and trampling with a trowel.

On the land prepared for planting, mung beans with a germination rate of 12-15 kg of germinated seeds per hectare are sown to a depth of 3-4 cm. In order for the sown seeds to germinate in time, they should be irrigated with water in advance.

After irrigation for harvesting, the sown mung beans germinate in 4-5 days. After the plants are fully harvested, the inter-rows should be loosened with a KRX-4 cultivator attached to a TTZ-80.11 tractor. During cultivation, the soil surface is loosened, the air, heat and water permeability of the soil improves, water capacity increases, and weeds are eliminated. The growth and development of the crop proceeds normally, and a bountiful harvest is produced.

In order to ensure that the seedling density in the loosened area is normal, consolidation should be carried out during the period of the appearance of true leaves in the plants. In this case, taking into account the planting scheme for obtaining grain, consolidation should be carried out by leaving 90x6-1, that is, 1 plant every 6 centimeters, which ensures that 185 thousand healthy seedlings are left per hectare.

In order to combat weeds in the field, ensure the rapid development of the mung bean crop, loosen the top layer of the soil, and improve air exchange, it is necessary to carry out a hoeing once.

During the growing season, for the development of the crop, during the flowering and pod-forming period, it is necessary to feed the mung bean with ammonium nitrate in the amount of 100 kg/ha in physical form. In order to ensure the full absorption of the applied fertilizer by the plant, it is best to irrigate with 500-600 m³ of water per hectare. After irrigation, it is necessary to carry out high-quality cultivation in the inter-row moisture. Timely loosening of the inter-row soil ensures long-term moisture retention in the soil, air and substance exchange in the soil, and creates conditions for the normal growth and development of the root system of the crop.



Flower



Stem



Beans



Grain

During the flowering period, mung bean requires more water. If the soil moisture content during the growing season is less than 60 percent of the limited field moisture capacity, the mung bean flowers will drop, leading to a decrease in yield. In order to avoid crop losses, it is recommended to irrigate mung bean during flowering and grain filling periods. In general, mung bean crops should be irrigated twice during the growing season to ensure full ripening. After each irrigation, the row spacing should be loosened with a cultivator. Leaving the row spacing unloosened will lead to the cultivation of weeds and rapid loss of soil moisture. As a result, the grain yield obtained will decrease.

Pests such as black sap, spider mites, and fall armyworms can damage mung bean plants. In order to protect plants from pests and insects, chemical control measures should be used against them. To do this, it is recommended to spray the chemical preparation "Vertmek" at the rate of 100-150 ml per hectare or another insecticide at the rate specified for the crop type using a motorized hand device. The grain yield of mung bean planted as a repeated crop ripens in late September and the first ten days of October, depending on the biology of the variety. It is advisable to start harvesting when the grain is 70-80% ripe. To harvest the grain, the plants are first cut and formed into a mound. After harvesting, the grain is crushed with Class or Case grain harvesters and separated. In some cases, if manual strength is sufficient, it is also possible to pick the ripe grain by hand. For this, picking mung beans by hand in the morning and evening hours prevents the pods from breaking and the grain crop from being lost.

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