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VARIETIES OF VEGETABLE BEANS IN UZBEKISTAN**Kim V.V.***Tashkent Chemical-Technological Institute Yangiyer Branch*v.veronika_9@mail.ru**Abstract**

Varieties of vegetable beans Zvezda Vostoka and Facon black 1 are universal. Successfully combined in crop rotation with vegetable and grain crops. Soil fertility is being improved. It is suitable for sowing both in spring and summer sowing and forms a full harvest. They are a high-calorie product for preparing salads, porridges, soups, and other dishes. Green mass of plants is nutritious feed for animals. Vegetable beans are used both as vegetable and grain crops. It is possible to successfully grow it as a repeated crop after grain crops, vegetables, and other crops.

Keywords: vegetable bean, Zvezda Vostoka variety, Black bean variety 1, beans, pests and diseases.

Introduction

Beans are quite an ancient culture. The origin of beans is China, then it was brought to America, where it was cultivated by Indians. In the 16th century, Spanish brought beans to Europe. Beans came to Russia from Turkey and France in the 17th century. Vegetable beans came to Uzbekistan from Russia.

Vegetable beans are rich in protein, sugar, and carotene. It contains all the necessary amino acids for humans. Beans are recommended for diabetes. It contains glyukokinin, a substance similar to inulin, which has a beneficial effect on blood sugar metabolism.

In 2022, the vegetable beans "Fasol chyornaya 1" and "Zvezda Vostoka" were regionalized.

Legumes can be grown in all regions of the republic on irrigated lands in vegetable and grain crop rotations.

Beans belongs to the "Bean" family (Fabaceae), subfamily Motilkovie (Papillionaceae), Genus - bean. *Phaseolus vulgaris* L., *Vid*. (Ph. Vulgaris. Savi.)

60 cm Vegetable bean is an annual plant, has a bushy stem type, when the main and lateral shoots end in a flower bud, or a growing stem, height 25 cm, compact or semi-spreading, depending on the variety.

Leaves are triplets, dark green, green and yellow green, on long petioles.

Flowers are bisexual, gathered in panicles of 2-8 specimens. The color of the flowers is white, pink, light purple depending on the variety.

20 cm Beans, depending on the variety, have a length of 8 - bean varieties, differ in the presence of a parchment layer on the inner side of the beans and fibrous threads in the seams, accordingly, varieties are distinguished: sugary (asparagus), without a parchment layer and fibers, semi-sugar without a parchment layer at a young age, with fibers, and lush with a parchment layer.

Vegetable varieties of beans have a sugar bead - a shovel. The color of beans is yellow (wax), green (from light to dark green shades), and variegated (yellow-violet).

Vegetable bean seeds germinate at a temperature of 11 - 12°C and higher. Seeds sown at low temperatures rot and wilt.

Vegetable beans grow better and faster in conditions of a short day. With a long daylight, the vegetative mass grows intensively, the growing season is prolonged, and fruiting is delayed. In the experiments at the NIOBKik in 2013-2015, beans were grown during the summer sowing period as a repeated crop.

The best predecessors for beans are tomatoes, cucumbers, potatoes, and root crops.

With increased air humidity and elevated temperature, the beans are severely affected by diseases.

Due to its powerful root system, it tolerates soil dryness more easily than air dryness, which affects it during the drought period, especially when it coincides with the flowering and legume formation period, flowers and ligaments in this case dry out and fall off.

In vegetable rotations, vegetable beans are sown for 2-3 years after applying organic fertilizers to the preceding crop.

When placing vegetable beans in crop rotation fields, it is necessary to observe the deadlines for returning them to their original place no earlier than after 4-5 years. This is due to the fact that diseases (anthracnosis, bacteriosis) persist in the soil for several years.

The vegetable bean responds positively to the application and feeding of mineral fertilizers, applied first during the emergence of true leaves, and secondly during the budding period or flowering period.

Vegetable bean varieties can differ in shape, color, size of beans and seeds, plant size, and flower color.

Vegetable beans. Variety Zvezda Vostoka.

675 rEarly-ripening variety. The first harvest of technically ripe green beans is carried out on the 65th day after sprouting. Seeds reach biological maturity in 90-95 days. Stems are formed only in the lower part of the stem (35-40 pieces). The yield in technical ripeness is 20.5-21.3 centners/ha. Green and ripe seeds are used in food. Mass of 1000 green beans. The partnership meets the requirements of the global market. Seeds contain a significant amount of protein and fat. Variety universal. It is successfully combined in crop rotation with vegetable and grain crops. Improves soil fertility. Suitable for sowing, both in spring and summer, and forms a full yield. Fruits of technical ripeness (light-beige with red spots) and biological ripeness are a caloric product for preparing salads, porridges, soups, and other dishes. Green mass of plants is nutritious feed for animals.

Early-ripening variety Black Bean 1.

Early-ripening variety. The first harvest of technically ripe green beans is carried out on the 65th day after sprouting. Seeds reach biological maturity on days 85-88. Stems are formed only in the lower part of the stem (35-40 pieces). The yield in technical ripeness is 18.6-20.2 centners/ha. Green and ripe seeds are used in food. The mass of 1000 green beans is 675 g. The company meets the requirements of the world market. Seeds contain a significant amount of protein and fat. Variety universal.

It is successfully combined in crop rotation with vegetable and grain crops. Improves soil fertility. Suitable for sowing, both in spring and summer, and forms

a full yield. Black fruits in their technical and biological ripeness are a caloric product for preparing salads, porridges, soups, and other dishes. Green mass of plants is nutritious feed for animals.

The variety is intended for cultivation under irrigation conditions. Very plastic in various soil and climatic conditions. It can be successfully cultivated in all regions of the republic.

5 cm Posev. Seeds are sown at a soil temperature of $+12-14^{\circ}\text{C}$. 3. When sowing seeds in spring from April 1 to 20, the green legume harvest can be collected in July. When sown in summer (June 1-25) as a repeated crop, the pods ripen before frosts. Plant placement scheme: single-row sowing 70×15 cm. Seed drying rate - 70-75 kg/ha.

The seeds are sown in well-moistened soil, then the seedlings appear quickly and in unison. During the growing season, 3-4 loosening operations are carried out. In the rows, 2-3 plowings are carried out as needed, removing weeds.

Vegetable beans are good for supplementary feeding. In case of nitrogen deficiency, plants develop poorly, leaves acquire a light green or yellowish color, leaves turn yellow and fall off. Phosphorus deficiency hinders plant growth, shrinks leaves, and delays flowering. In case of potassium deficiency, yellow spots form on the leaves. A lack of nutrients leads to a decrease in yields.

Beans are sensitive to water stagnation and do not tolerate flooding at all. During the growing season, 12-14 irrigations are necessary. In summer, watering should be done every 3-6 days.

Beans are harvested manually on a shovel in a few times, with intervals of 5-8 days. The first shoots appear after 45-55 days, depending on the sowing location and early maturity of the variety. The largest number (by weight) is obtained during the second and third harvests; in subsequent harvests, the number of shovels is reduced. They sell beans for unripe grain in beans.

It is best to remove hats in the morning and evening hours, as they quickly wilt and lose their marketable appearance with the onset of heat.

For seeds, beans are harvested in waxy ripeness, when the pods turn yellow and the seeds harden. Seed plants are pulled out by hand or harvested with serpents. The mass is allowed to dry for 10-15 days in a well-ventilated room or under a hanger, where it dries well and becomes suitable for grinding. In small plots, sprouted beans are harvested as they are ready in several stages.

Wet seeds are dried to prevent them from becoming moldy and losing their viability. Seeds must have a moisture content of no more than 15% before storage or sale.

The variety is used both as a vegetable and as a grain crop. It is possible to successfully grow it as a repeated crop after grain crops, vegetables, and other crops.

Pests and Diseases. The most dangerous pest is bean grain. Beak oval-shaped, 2-3.5 mm long, dark brown, with longitudinal, light stripes. Reproduces in the field, in granaries. Under favorable conditions, it produces 5-6 generations per year. In field conditions, the female lays eggs in cracks of ripe beans or in the depths she grows in them, in granaries - on grain, sacks, floors, walls. The larvae penetrate the grain, where they pupate, and then beetles emerge from the pupae, which overwinter there, and in spring, during sowing, they enter the field with the seeds. Damage to beans is similar to damage to peas, with the difference that up to 20-30 larvae can develop in a single bean grain. Against bean grains, crops are sprayed during the budding period with preparations: Karate - 0.1-0.125 l/ha, Fastak - 0.15-0.25 l/ha, Fury, 10% e.c. 0.07-0.1 l/ha. In addition, to destroy the bean grain and prevent its spread, grain fumigation is carried out. In frosty weather, grain storage facilities are frequently ventilated. A batch of seeds damaged by pests can be frozen in the open air. In this case, it should be taken into account that larvae and pupae at a temperature of -4°C die after 15 days, at -12°C and below - after 1-2, fungi at a temperature of $-12 - 18^{\circ}\text{C}$ - after 2 days. The viability of bean seeds, if they have normal moisture content, does not decrease after freezing.

The spider mite lives and feeds on the underside of leaves, wrapping them with a thin spiderweb. The damaged leaves turn yellow, wither, and fall off. Meri Borbi: Spraying of Seeds with Preparations - Isofanom 10% or Carbofos 10% in a dose of 60 g/10 l of water, Keltanom 20% from the calculation 20 g/10 l of water, Omaytom 57% - 2 kg/ha.

Vegetable beans are affected by bacterial, viral, and fungal diseases. Bacteriosis develops on leaves, stems, beans, and seeds. Beans are most often affected by bacterial wilt and bacterial burns. Among viral diseases, mosaic, yellowing, and dwarfism are the most common. When infected with viruses, plants noticeably lag in growth and development, often not yielding a harvest at all.

Viruses are usually transmitted by aphids, some are transmitted through the seeds of diseased plants.

Among the fungal diseases of beans, the most dangerous are anthracnose, white and gray rot, rust. On leaves, stems, and beans affected by anthracnose, spots with pale pink cushions of fungal spores are formed. On beans, they are clearly expressed - round, compressed; on stems and petioles - striated, banded, compressed; stems and petioles often overlap. The main source of anthracnose spread is infected seeds and plant residues.

In wet years, the beans are affected by white rot that appears on the stems and beans. The bows are covered with a thick white coating. More than half of the contents of such beans, and sometimes all the grains, are filled with the pathogen's mycelium. Such grain is unsuitable for food and for sowing.

Literature

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