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BIOLOGY OF SUGAR BEET VARIETIES, PESTS, DISEASES AND MEASURES TO CONTROL THEM

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ANNOTATION

Information is provided on the biology of sugar beets, methods of growing them, as well as pests and diseases. Methods for protecting sugar beets from insects and diseases are described. Data from scientific studies of beet varieties are also presented.

Keywords: sowing methods, agricultural technology, beet varieties, growing season, seed material, source of disease, pests, sugar content, soil conditions.

Introduction

The sown area has been expanded for the implementation of projects for the intensive development of vegetable growing. Capacities for storing and processing vegetables and fruits have been launched, and financial resources are being actively attracted, including funds from international financial institutions. At the same time, in order to implement the Decree in our region, much attention is paid to vegetables and fruits.

At the same time, the high level of competition in foreign fruit and vegetable markets requires the rapid introduction of modern methods of agricultural technology and management of production and supply processes.

Over the years of independence, due to enormous changes in agriculture, as well as in all sectors of the economy, optimization of farming land. The per capita need for sugar and sugar products is **30-35 kg** per year. To satisfy our population's need for sugar, it is important to cover it from internal resources. In Uzbekistan, sugar is obtained mainly from sugar beets.

Sugar beets have been grown in our country since **1942**. Since **1993**, under the leadership of Doctor of Agricultural Sciences R. Tillaev, scientific research has been carried out at the Research Institute of Cotton Breeding, Seed Production and Agricultural Technology. Research was carried out in the Tashkent region by I.B. Khalikov, in the conditions of the Andijan region by I. Sulaimonov and in the conditions of the Fergana region by R. Kurbanov.

Later, in **1997-2006**, scientific research was carried out to test sugar beet varieties in the Khorezm, Kashkadarya and Tashkent regions. According to the botanical description, beets are a biennial plant with tubers belonging to the genus **Beta wulgares**. Experiments have shown that the yield is **337-401 c/ha** per hectare. Sugar beets are biennial plants that produce a thickened set of roots and leaves in their first year. The duration of this period is **150-170 days.** In the second year of life, the roots are located in the axils of the leaves.

Leaves and flowers are formed from dormant buds. The seeds ripen **100-125 days** after planting the tubers.

The main varieties grown in Uzbekistan are Astro, Ario, Claudia, Maria, Romeo, Sonya, which are hybrids of French and German companies. These varieties are zoned in different regions of the country. Of these hybrids, the Astro variety was included in the State Register in **1998** for sowing in Bukhara, Kashkadarya, Navoi, Syrdarya and Tashkent regions.

Productivity **40-41** t/ha, dry matter content **23.7%**, sugar content **17.7%**. The Sonya variety is a hybrid of the German company KVS and was included in the State Register in **1998**, for the zones of the Republic of Karakalpakstan, Bukhara, Kashkadarya, Surkhandarya, Tashkent and Fergana regions. Productivity **40-42** t/ha, growth period **158-160** days, dry matter content **24.2**%, sugar level **18.2%**

In the first year, when the seeds of beet varieties are sown, flowering stems are formed and flowering plants are formed. Flowering is observed during early planting, when spring is cool, when the daylight hours are relatively long, then the flowering period is short.

During flowering, the amount of sugar in the roots decreases, the roots thicken and wrinkle. In the first days of a plant's life, primary roots develop slowly. In the first year of the growing season, three main periods can be distinguished.

1. Formation of the absorbent surface of leaves and roots.
2. Strong growth of leaves and roots - duration is two months.
3. Rapid accumulation of sugar, the root increases by **5g** per day, sugar increases by **0.07-0.1**%. Sugar beets, like all plants, are affected by pests.

Currently, there are more than **250** species of sugar beet pests. Of these, **43** species cause the greatest damage. Some of the main ones are autumn nightshade, caradrina, beet moth, long beet, and leaf beetle. Timely control of these pests using agrotechnical and biological methods gives good results. The main agrotechnical measures include high-quality soil tillage before planting, timely sowing, high-quality tillage between rows, fertilization and watering.

The main pests of sugar beets are spider mites, leaf lice and other sucking pests. Experiments show that when using high-quality treatment, it has a significant effect on pests. In our country, sugar beet root rot, powdery mildew and moniliosis are widespread diseases.

The reasons for the appearance and spread of the above disease are poor-quality processing and improper care between beet rows. The most common viral disease of sugar beet is mosaic disease; if sugar beet is affected with these diseases, the yield is reduced by **40-60**%. Aphids are the main cause of the disease.

Therefore, when sowing seeds treated with some insecticide before sowing the plant seeds, it was found in experiments that the juice does not fall off even after germination until it produces **6-7** true leaves. It has been found that good results can be obtained by treating the seeds with effective insecticides Gaucho, Carbos, Derazol, Scoter, even if the sap drops.

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Powdery mildew and rust diseases appear under the influence of fungi. With powdery mildew disease, white dust appears on the surface of the leaves. As a result, the process of photosynthesis slows down, the plant lags behind in growth and development. Productivity is significantly reduced. Derazol is effective in the fight against diseases when mixed at **0.3** l/ha per **300** l of water and sprayed.

Chemical treatment gives good results when the first symptoms of the disease appear. At harvest, when the sugar beet leaves begin to turn yellow and dry out, the large leaves disappear and small ones begin to form. To make beets easier to dig, they are lightly watered so that there is no danger of digging. The beet harvest is dug up using special mechanisms and machines. The tops are harvested using **BM-4, BM-6A** tops harvesting machines, and the root part is removed with timely treatment against pests and diseases.

Experiments have shown that there is an increase in yield by **4.3-4.7**%.

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