

Origin, Distribution, Classification and Varieties of Sweet Cornmeal

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Annotation: Sweet corn is an early ripening vegetable and is a promising vegetable crop for morning and evening planting periods.

Sweet corn is recommended for planting, growing from seedlings and seeds in the morning and evening, on farms, landowners.

The article provides brief information on the origin, distribution, classification and varieties of sweet corn.

Keywords: Sweet corn, variety, variety, hybrid, phenological, biometric, early ripening, late ripening, leaf, seed.

Introduction

Increasing the range of vegetable crops on vegetable farms, expanding the area of growing crops, such as sweet corn, selecting varieties suitable for any soil and climatic zone, developing their cultivation technology, concluding contracts between farms and processing enterprises for the supply of products important.

Sweet corn kernels are used in food during the milk-wax cooking phase, canned and freshly frozen. Sweet corn is rich in sugar and starch, as well as a certain amount of protein, essential oils for human health, vitamins C, B₁, V₂, RR and provitamin A. [1].

One of the most popular vegetables in the world today is sweet corn (*Zea mays* L. convar. *Saccharata* koern.), Native to Central America, and is a common vegetable in the United States,

Canada, Mexico, Argentina, and Peru. has been gaining interest in recent times. However, under certain conditions, no scientific research has been conducted on the selection of sweet corn varieties, the organization of seed production and the establishment of convenient planting methods and standards for their cultivation. [5].

Corn is used for many purposes in the national economy. Its grain is used as food in many countries. 45-50% of all corn grown in European countries, 30-35% in North and Central America, 50-55% in South America, 70-80% in Asia, 65-70% in Africa and 35-40% in Australia are used for food purposes. 90-95% of corn grown in countries such as Portugal, Mexico, Cuba, Pakistan, Indonesia is eaten [3].

Corn is one of the most ancient cultural crops. His homeland is Central America. Even 4,000 BC, all the tribes living on the American continent made extensive use of corn, for whom it was the only bread crop.

Corn was brought to Europe in the late 15th century. In the early days it was planted to decorate the surroundings of the house as a unique crop. Soon corn was spread in France, Italy, and Portugal, first as a food crop and then as a fodder crop.

In the 16 th century, corn reached Africa, India, and China. Cultivated in Russia since the XVII century. However, it was cultivated as a melon crop until the second half of the 19 th century.

Today, corn is a highly cultivated plant and is widespread on all continents. It ranks third in terms of total area (after wheat, rice). Worldwide, in 2007 its area was 147 million. hectare, the yield is 49,8 ts/ha, the gross yield is 733 mln. tons [4].

The area under corn in Uzbekistan is growing every year. Its area in 2007 was 92,000 hectares, with a yield of 38,0 ts/ha and a gross grain yield of 349,600 tons.

Cultivated corn belongs to a single species of *Zea mays* and has different forms depending on morphological features.

According to the classification proposed by Stertevant in 1899, the endosperm and grain morphology are divided into 7 subtypes. They consist of: [3].

- 1. Starchy corn (Picture. 1) - *Zea mays* amilaceae.** The grain is round in shape, the endosperm is filled with unsaturated starch granules. The grain contains 72-83% starch, 7-12% protein, 5% fat. The appearance of the grain is dull. The grain of this subspecies is a raw material in the production of starch - juice, alcohol - vodka and oil.



Picture 1. Starchy corn

2. **Toothed corn (Picture. 2)** - *Zea mays indentata*. The most common subspecies. Its grain is large, elongated - prismatic, with a special groove at the top. The shape resembles a horse's tooth. The grain has two types of endosperm: unsaturated and granular.

The predominantly yellow-grained variety of toothed corn is widespread. It contains 68-76% of starch, 8-20% of protein and about 5% of fat. It also contains carotene, which significantly increases the nutritional value of grain, and its yellow color is mainly due to carotene.



Picture 2. Toothed corn

3. **Silicon (shiny) corn (Picture. 3)** - *Zea mays indurata*. The grains are round, the two edges are slightly sunken, smooth, shiny. The endosperm is branched and only the central part is unsaturated. The grain contains 65-83% starch, 8-10% protein, about 5% fat.



Picture 3. Silicon (shiny) corn

4. **Cucumber Corn (Picture 4)** - *Zea mays everta*. The grain is small, the endosperm is

branched, filled with starch granules. Unsimon starch granules are present in very small quantities near the bud. When roasted or at high temperatures, the grains crack into lumps. The industry produces cucumbers, cereals and other food products from grain. The grain contains 62-72% starch, 10-14% protein, about 5% fat.



Picture 4. Cucumber corn

5. **Sweet corn (Picture. 5)** - *Zea mays sacharata*. Originated as a mutant of toothed and shiny corn. The grain is shiny, twisted in appearance, contains a lot of water-soluble carbohydrates - dextrin, branched endosperm cup, unsaturated starch granules are found in very small quantities in its endosperm, only near the bud. The grain of this subspecies contains more protein and fat than the others. Sweet corn kernels (relative to dry matter) contain 18-20% protein, up to 64% carbohydrates, including 32% dextrin, 8-9% fat.



Picture 5. Sweet corn

Sweet corn is grown as a vegetable crop and is harvested and used for food during the milk-ripening phase.

The plant of sweet corn is short, prone to the formation of stalks, the stems are small, the growth period is short, that is, it ripens quickly, but is low-yielding. Therefore, it is important to create high-yielding varieties of this subspecies.

In Argentina, Canada, and the United States, sweet corn is more common than other subspecies.

6. **Shell corn (Picture. 6)** - *Zea mays tunicata*. The grain is covered with strongly developed mother flower petals. This young species is not of economic importance, it can be planted only for the purposes of botanical and genetic testing.



Picture 6. Corn on the cob

7. **Waxed corn (Picture. 7)** - *Zea mays ceratina*. Written by NN Kulyashov, it is similar to a shiny junior bar in terms of grain hardness, but differs from it by its dull, waxy appearance. The grain of this subspecies is used to obtain dextrin.



Picture 7. Waxy corn

In addition to the 7 species listed above, there is another sub-species -

8. **Corn on the cob (Picture 8)** - *Zea mays japonica* is also found. Its leaves are pale yellow, reddish streaks. It is grown as an ornamental crop.



Picture 8. Corn on the cob

Researchers (M.A. Zelensky, A.K. Parkhomenko, 1986) write that despite the fact that it was cultivated several thousand years ago, until recently there was no consensus on the origin of corn. As a result of selection work, corn has changed so much that no one has been able to identify its wild offspring. Some researchers say that the *Zea mays* type was obtained by spontaneous or artificial hybridization, but the original parental forms have not yet been identified.

In the recent past, a wild plant species found close to corn was found in the mountainous regions of Mexico. This *trypsakum* - *Tripsacum dactyleoides* is a perennial, tall, many-branched plant that forms corn-like grains on the third part of its branches.

In the early 1990s, another endangered Teosinte species was found growing wild in the mountainous regions of Mexico from its predecessors. The seeds of this plant are called "chepal" by the locals and are used in food. Teosinteda also has the same number of chromosomes as corn ($2n = 20$) and is easy to confuse [3].

There are varieties of sweet corn close to it, planted in countries such as Russia, Ukraine, Moldova.

In Uzbekistan, sweet corn was rarely planted, there were no varieties suitable for local conditions, and some varieties were imported.

Description of sweet corn varieties

Hybrid Jubilee - 237. Created at the Crimean experimental station of VIR. The plant is 172-218 cm tall, produces 2 stems and 2 stalks. The grain is completely yellow, cylindrical, the stems are cylindrical, 19,5 cm long and 5,1 cm wide. early ripening variety, technical ripening in 102-105 days.

Kubanskaya konservnaya - 148. This variety was obtained by crossbreeding American varieties at the Crimean experimental station of VIR. Buyi 140-170 cm. The grain is broad

yellow, conical, 18-22 cm long, 4-4,5 cm in diameter. fast-ripening variety, technically ripens in 90-99 days. Especially suitable for planting in the summer.

Pioneer Severa. The Gribovsky Vegetable Breeding Experiment Station was created by mixing Canadian vegetable (sweet) corn.

The plants are low, 9-120 cm tall. The grain is white or light pink, the stalk is weakly conical, 12-15 cm long, up to 3-4 stalks are formed in one bush. The fast-ripening variety ripens technically in 70-90 days after germination.

Nagrada - 97. Created at the Crimean Experimental Station of VIR, obtained by crossbreeding from American varietal samples. Plant height 150-200 cm, grain orange, elongated, stalk cylindrical, length 20-24 cm, width 4,2-4,8 cm. Medium-ripening variety, technically ripens in 94-106 days. High yield, drought tolerant.

Rannyaya zolotaya - 401. Created at the Crimean experimental station of VIR. Plant height 110-140 cm, seeds pale yellow, short. The milk is 15-18 cm long and 4 cm in diameter. Early maturing variety, growth period 80-90 days.

Tiraspolskaya skorospelaya - 33. Obtained by mixing varieties of American origin in the Moldovan Research Institute of Irrigation and Vegetable Growing. Plant height 120-140 cm, grain light yellow,

milk length 15-18 cm, diameter 4-4,2 cm. very fast-ripening variety, technically ripens in 60-70 days. Cold-resistant (M.I.Rubakov, V.P.Matveev, 1970).

Sherzod. Hybridization (France UZ № 53/98 x Nagrada) and popularization by scientists of Samarkand Agricultural Institute and Botanical Research Institute (T.E.Ostanakulov, R.F. Mavlyanova, F.H. Abdullaev, Sh.O. Burkhonov) created by selection. Fast ripening, growth period 72-74 days. Plant height 150-170 cm, resistant to lodging and blistering. Collecting 3-4 lateral stems, multi-stalked. 12-15 pieces of milk are formed in each tube. Suta weighs 120-200 grams. The grain is large, the mass of 1000 grains is 330-350 grams. Suitable for primary and secondary crops. Grain yield is 50-70 ts/ha per hectare. It was included in the State Register in 2005 and recommended for zoning [2].

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