EUROPEAN JOURNAL OF LIFE SAFETY AND STABILITY (EJLSS)
ISSN2660-9630
www.ejlss.indexedresearch.org Volume 27, March-2023 ||

Study of Characteristics of Sweet Pepper Varieties and Hybrids Recommended for Cultivation in Protected Lands

Gafurova Mashhura Saidulla qizi
Student of Termiz Institute of Agrotechnologies and Innovative Development

Abstract: *Sweet pepper (Latin Capsicum annuum) is an annual herb native to Central America (Mexico, Guatemala). Since sweet pepper is a valuable vegetable crop, its demand has always been high. In the conditions of Uzbekistan, the correct selection of varieties and hybrids is the guarantee of an abundant harvest in order to obtain a quality harvest from sweet pepper. 8 local varieties of sweet pepper are included in the State Register of agricultural crops recommended for planting in the territory of the Republic of Uzbekistan. This paper provides information on the morphological characteristics and characteristics of sweet pepper varieties and hybrids grown in protected areas.*

Keywords: *Sweet pepper variety, hybrid, morphological characteristics, early, mid-ripening, late-ripening, productivity.*

Date of Submission: 23-02-2023 ***Date of Acceptance: 24-03-2023***

Sweet pepper. Taking into account the high nutritional value of sweet pepper fruits, it is becoming more widespread in protected areas. It occupies an area of more than 2400 ha in film greenhouses and heated fields in Italy and more than 1160 ha in Japan. Sweet pepper also occupies a large area in glass greenhouses in the Netherlands, Bulgaria, Hungary, Romania and France.

By its nature, sweet pepper is a perennial plant, but as a cultural crop, it is grown as an annual crop. This crop requires short days, light intensity and heat. It has a branched root system, but its development is lower than that of tomatoes. Therefore, peppers need well-enriched soil with organic fertilizers. It also likes mineral fertilizers, especially those containing potassium and calcium. It is very sensitive to high salt content in the soil, so it cannot tolerate a lack of moisture. In such cases, tip rot is observed. Pepper does not like the soil to be too wet. Therefore, they water often, but in moderation. Optimum soil moisture before harvest - 75% NV, after harvest - 80% NV.

The stem of pepper is herbaceous, the base is woody. Each stem is completed with a flower and 1-2 fruits. Stems that continue to grow emerge from the lower leaf axils. Sometimes flowers form in the leaf axils. The leaves are flat. Pepper flowers are bisexual. It is self-pollinating. Can be repollinated in the presence of insects. Therefore, it is impossible to grow sweet and hot pepper varieties in the same greenhouse. Pepper fruit is a semi-aqueous false berry, hollow inside, variable in shape, coarseness and fleshiness (thickness of the walls). In greenhouses, pepper forms rather large and juicy fruits, in terms of taste, they are not inferior to fruits in the open ground.

Varieties of sweet pepper differ from each other by many characteristics.

Since late and mid-ripening varieties are greenhouse crops long-season grown stems produce stems 1.5 m and above, while early-maturing varieties reach 1.2-1.3 m. Most varieties consist of short (0.3-0.4 m) stems with stems that are slightly branched at the top.

The period from the germination of the grass of the varieties grown in greenhouses to the technical ripening of the crop is 110 days for quick ripeners, from 110 to 140 days for medium ripeners, and more than 140 days for late ripeners. The duration of the harvest period is up to seven months in strong-growing varieties, 20-30 days in stubby (short) quick-ripening varieties.

In Uzbekistan, sweet pepper is grown in greenhouses in several cycles. In unheated spring greenhouses, it is grown in a spring-summer rotation, in which seedlings are planted in mid-March, and it is finished in July-August. During this cycle, the fastest growing varieties are grown and 59-60-day-old seedlings are planted. In this case, the harvest starts from the middle of May.

In heated glass and film greenhouses, sweet peppers are grown in winter-spring and transitional cycles. In the winter-spring rotation, seedlings are planted from mid-January to mid-February, and cultivation continues until the end of July. Quick-ripening varieties are used for planting, in which 55-60-day-old seedlings are planted. Harvest begins at the end of March.

During the transition period, 35-40-day-old seedlings are planted in late October, early November. Cropping is continued until July, using mid-ripening varieties. The harvest begins at the end of January and the beginning of February.

During the winter-spring and transitional rotation periods, seedlings are transferred to a feeding area of 70□25-30 cm and 5-6 plants are placed per m2. Also used is the double tape method. In this case, the seedlings are placed in the form of 100+60, in the rows on the tape, the distance between the plants is 20-25 cm. Instead of tying slow-growing (short-growing) cultivars in winter-fruit rotations, tying medium-growing (medium-tall) cultivars, especially in transitional rotations, to low-hanging canopies they stir.

In the spring-summer and winter-spring cycles, slow-growing varieties are not given shape. Medium-growing varieties are formed with two or three stems, each stem is tied to a separate hemp. When caring for plants, non-bearing branches, dead, undeveloped nodes are removed, which makes it possible to obtain much larger fruits. Pepper stems are very fragile, so be careful with them. In order to improve the formation of fruits, when the tied plants are in flower, it is necessary to lightly shake the bundles with a stick.

Fruits are harvested when they are technically or biologically ripe. In biological cultivation, the yield is significantly reduced. The first harvest and winter harvest are carried out 1-2 times a week. With the onset of sunny days, spring harvesting is carried out more often 2-3 times a week. Picked fruits are sorted and placed in 5-10 kg boxes. For short-term storage and long-distance transportation, pepper fruits are stored at 12°C. In the spring-summer cycle, the yield of pepper fruits is 5-7 kg per 1 m2, in winter-spring 8-10 kg, and in winter 12-15 kg.

Pepper varieties are divided into bitter and sweet varieties according to their taste. Sweet varieties are better grown, consist of a bush with a thick stem, the fruits are often directed upwards on the bush, the leaves are ovate, large, the sepals do not surround the base of the fruit, the fruit is obtuse at the tip, the diameter of the fruit is 3 cm than, thick flesh (2-6 mm), the fruit band is sunken into the fruit.

Sweet pepper varieties grown in greenhouses differ from each other in the following morphological characteristics:

- bush height: tall - more than 1.5 m, medium - 1-1.3 m, short - less than 1 m.
- leaf size: small - 5-8 cm, large - 8-12 cm, very large - more than 12 cm.
- leaf color: light green, green, gray (dark) green.
- the state of the fruit on the bush: hanging, slightly hanging and facing up and raised up.

Variety selection. For cultivation as a greenhouse crop, slow-growing (lowgrowing) varieties are usually used, strong-growing (tall-growing) and medium-growing (medium-growing) varieties are full of binding. As a greenhouse crop in the CIS countries, short varieties Lastochka, Winnipukh, medium-sized varieties Medel, Podarok Moldovii and Zdorovoe are widely used. In the Netherlands, strong-growing (tall) large-fruited hybrids are grown, which are given a two-stem form and grown in mineral cotton as a crop with an extended growing season (from the end of November to the first decade of next November).

In Uzbekistan, as a greenhouse crop, sweet pepper varieties misted for open ground are used, including local Dar Tashkenta, Zarya Vostoka, Zumrad, Tong, Nargiza varieties; Moldavia Lastochka variety; A hybrid of France and Denver; Maratos, Orion, Fleeta hybrids of the Netherlands are included. Lastochka and other local varieties are used in the short rotation, and foreign hybrids and the local Zumrad variety are used in the long rotation.

In the conditions of Uzbekistan, to obtain a high-quality harvest of sweet pepper, the correct selection of varieties and hybrids is the guarantee of abundant harvest. 8 local varieties of sweet pepper are included in the Dalvat register of agricultural crops recommended for planting in the territory of the Republic of Uzbekistan, the classification of these varieties is given below**.**

Varieties recommended for planting in open ground. Nargiza. Early variety, the growing period until technical maturity is 110-120 days. The bush is bushy, medium height 45-55 cm, compact, i.e. the branches do not lie to the side, it is well covered with leaves. Fruit weight: 50-60 g when technically ripe, 85-100 g when biologically ripe. Flesh thickness: 4.0-4.5 mm when technically ripe, 5.0-5.5 mm when biologically ripe. Fruit color: light lemon color when technically ripe, clear red color when biologically ripe. Productivity is 50-60 t/ha.

Sabo. Early variety, the growing period until technical maturity is 110-120 days. The bush is medium-sized, 45-50 cm tall, compact, that is, the branches do not lie to the side. Fruit weight: 55-60 g when technically ripe, 75-90 g when biologically ripe. The color of the fruit is light yellow when technically ripe, and dark lemon when biologically ripe. Productivity is 50-60 t/ha

Zara Vostok. Mid-early variety, the growing period until ripening is 116-129 days. The bush is compact, short, 44-52 cm. The fruit is conical, the surface is flat, with barely perceptible blisters, weight 64-70 g, cream color when technically ripe, red when biologically ripe, flesh is smooth, thickness 5.0 mm, tasting grade 5.0 points. Productivity is 25-30 t/ha. Heat-resistant, suitable for domestic use and processing.

Dar Tashkent. Medium variety, growth period: 120-125 days until technical ripening, 140-145 days until biological ripening. Bush with stem, serbarg. The fruit is conical, the average weight is 110-115 g, yellow when technically ripe, red when biologically ripe, the surface is uneven, slightly blistered, sunken in some places, the flesh is soft. Productivity is 40-45 t/ha. Suitable for various purposes, heat resistant.

Getting to know sweet pepper varieties intended for planting in the greenhouse. Flamingo F1 is a hybrid of the French seed company "Kloz". Ertapishar variety, Hungarian sweet pepper. The bush is large, medium in size, 8×12 cm long, leaves are medium in size, light green in color, red when ripe. Fruit weight 14, taste 5.0 points. Khoaildar, the fruit of which is intended for fresh consumption and processing, is resistant to diseases, has excellent taste, is easy to transport and is recommended for planting in farms. Average yield is 18.5 t/ha.

Djemini F1 is a hybrid of the Dutch company "Nunems". The medium-sized bush is large, medium-sized, 45-50 cm long, with medium-sized leaves. The shape of the fruit is long, medium in size, the color changes from green to orange when ripe. The surface of the fruit is smooth. Average length is 7-8, 9-10 cm, thickness is 6.8 cm. Fruit weight 250 gr, taste 4.5 points. The fruit contains

vitamin C 86.2%, nitrates 120 mg/kg, dry matter 6.8%, sugar content 2.6%. It is intended for fresh consumption, resistant to diseases, easy to transport and recommended for planting in farms. Productivity averaged 45 t/ha.

Reyna F1. A hybrid of the Dutch company "Nunems". Early-ripening . The bush is large, medium in size, 45-50 cm long, leaves are medium in size. The shape of the fruit is cubic-oblong, with 3-4 chambers, the color is dark red, and the flesh is thick. The surface of the fruit is smooth. Average length is 7-8-9-10 cm, thickness is 6.8 cm, weight is 200 g, taste is 5.5 points. The growth period is 79 days. The fruit contains vitamin C 18.3%, dry matter 6.0%, sugar content 3.1%. High-yielding, intended for fresh consumption and processing, resistant to diseases. This hybrid is recommended for planting in open fields and greenhouses. Average productivity is 52 t/ha.

Derby F1. A hybrid of the Dutch company "De reiter sibe". Mid-ripening. The fruits have a unique creamy color, when ripe they are red, cube-shaped, and the flesh is thick. The surface of the fruit is smooth. Fruit weight is 157 g, taste is 5 points. The growth period is 97 days. It is designed for fresh consumption and processing, resistant to diseases. This hybrid is recommended for planting in the open field and in greenhouses. Average yield is 29.8 t/ha.

REFERENCES

1. A collection of "100 books" prepared in cooperation with the Ministry of Food and Agriculture of the Republic of Turkey and "Denizbank".
2. Azimov B. The influence of planting schemes on the productivity of sweet pepper varieties. // Agricultural journal of Uzbekistan. - Tashkent. 2016. – No. 3. – 29–30 B.
3. Azimov B.J., Azimov B.B., Azimov B.B. Varieties of sweet pepper. //Factors of high yield of vegetable, potato and potato crops. Tashkent, 2008. - 14 B.
4. Azimov B.B., Mavlyanova R.F., Azimov B.J. Recommendations for obtaining a high yield of sweet pepper in Uzbekistan. // Tashkent, 2016. – 9 B.
5. Azimov B.J., Khakimov R.A., Abbasov A.M., Azimov B.B. Sweet pepper. // Month-by-month activities in vegetable growing, potato growing, and potato growing throughout the year. 6. Rasulov F. F Improvement of the elements of the technology of selection and cultivation of sweet pepper varieties in the recurrent period. Dissertation for the degree of Doctor of Philosophy in Agricultural Sciences. Tashkent-2017.