



PROCESSING OF BLACK FRUITS

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Annotation

This article describes the biological properties of currant plants, species, varieties, their importance and chemical composition of fruits, products of processing currants: juice, jam, dried products and jam.

Keywords: black currant, golden currant, red currant, fruit, buds, flower buds, petals, seeds, flowers, water, temperature, juice, jam, povidlo, currant pickle, sugar currant, currant jam.

Currant is a Perennial Shrub

Black, golden, red, white and penicillin currants are widespread in Uzbekistan. Black currant belongs to the genus *Ribes* of the family of rhizomes. Black and red currants are distinguished by the location of the buds on the twig, the color of the peel, and whether the fruit is fragrant or odorless. The bark of annual branches of black currant is yellow, with a long gray stripe, and as it grows, the bark turns brown. Spotty spots are visible on all branches. The buds, leaves, bark and fruits have a distinctive odor. There is no smell of red currant, all branches can be easily separated from black currant with slow growth. The buds of black currant are mixed, while those of red are simple.

From each bud of black currant develops both vegetative and fruit organs at the same time, from one bud of red currant leaves and stems, and from the other bud only flower.

Normal colored-golden currants differ sharply in strength from red and black currants. The tubers are high. The leaves are gooseberry-like, fragrant, and the flowers are orange, with a pungent odor. The fruit is uniquely fragrant. Black currant - a perennial shrub plant, the root system of poplar root. This species is propagated from currant seeds, cuttings, by pruning, and by dividing the bushes. The leaves are





arranged in rows, three to five lobes or whole. The underside of the leaves and annual branches have distinctive odor glands. At the joints of the annual branches of currants ended fruit on a ring-shaped branch. Ring-shaped branches live 3-4 years, then wither or develop on the branches where the last bud grows. The fruits are black or brown, round, elongated, noxious or flattened. The fruit is also valuable because it contains vitamins C, V, V9, A, R, K1, sugar, organic acids, fragrant substances. They are eaten fresh, dried, frozen, in the form of jams and juices. The fruit of black currant is much richer in ascorbic acid than other types of currants, depending on the variety, humidity and temperature conditions, it contains from 86.17 to 344.66 mg% of vitamin C. The fruit contains from 5.0 to 13.6% of sugar, 0.96 to 3.92% of acids, 0.39-1.44% of pectin. With the juice made from currants can treat sore throats, wheezing (suffocation), whooping cough. These beneficial juices are also drunk to treat ulcers and intestinal diseases. Black currant is an early-fruited plant that comes into fruition in the second year after planting.

Red Currant

Cultural varieties of red and white currants are derived from three types of currants: common, red, and rocky. Red currant is a perennial shrub, its root system can grow up to 1.5 meters. The leaves are arranged in rows, three to five petals or whole. Fruit buds are located one by one on annual shrubs, and in clusters on two- and perennial twigs, between one- and two-year shoots. The petals are bell-shaped, plate-like or cup-shaped. The inflorescence consists of five small yellow or blue petals. The seed is single-celled, multi-seeded. Dust father five. The seed column grew in two clinging to each other. The mouth is divided into two. The flowers are gathered in a bouquet. The fruit is round flat. Red currants are red, dark or light red or pink, while white currants are yellowish or white. Red currant fruit contains 4.86-7.94% of sugars, 0.589-2.350% of acids, 26.0-76.0 mg% of vitamins C and 1081.7 mg% of vitamins R, as well as aromatic substances. The fruits are eaten fresh and in the form of juice. Red currants, like black currants, are propagated by seeds, cut into bushes and propagated from seed to create a new variety. In Uzbekistan, red currant varieties are recommended for planting in the foothills. The red variety of currant is self-pollinating. Harvested in the second year after planting.

Golden currant

Is a perennial shrub with a root system up to 2 meters deep. The leaves are alternate, three to five lobed, light and dark green, some slightly branched. The appearance is reminiscent of the leaves of the gooseberry plant. In autumn, the leaves of this variety





currant turns dark red or yellowish red. Flowering of currants occurs in late March, the first ten days of April, the fruits ripen in early spring in late May, in the first ten days of June, that is, equal to the early varieties of black currant. However, the maturation of some varieties takes a little longer. Fruits - black, red, orange, yellow, purple. Golden currant contains 6.29 to 13% of sugar, 0.94 g to 2.04% of acids, 43.2 to 187 mg% of vitamin C, 8.05 mg% of provitamin A and 1.5%. contains pectin (in terms of dry mass). Currants are eaten fresh, in the form of compote, jam, juice and jelly (condensed fruit juice). Golden currant is cut into cuttings, divided into bushes and propagated by seeds. Yields are much higher than other varieties: up to 8-20 kg of fruit is harvested from each bush. Currant bushes come into fruition in the second year after planting. As a result of selection work carried out at the Uzbek Research Institute of Horticulture and Viticulture named after Academician Mahmud Mirzayev, several promising varieties and forms of currants are created in our country and other Central Asian republics with high yield, heat resistance and fruit size. Berries are important in the human diet, but they can not be stored for a long time as fresh, so its consumption is short. You can extend the shelf life by taking juice (juice) from them or using it dried and canned. Canned and juices prepared in accordance with the rules are well-preserved in the wet, are very nutritious food. They contain vitamins, sugars, acids, mineral salts, dubile substances, dyes, pectin, essential oil and others. The juice of many berries is a medicinal and dietary food, has phytoncide properties, which can stop the activity of pathogenic microbes, prevent and even treat some diseases. The quality of the processed product depends on the type of raw material. Berries should be harvested when fully ripe, otherwise the juice of unripe fruits will be low in sugar, acids and vitamins. A little juice comes out of the ripe berries. In order for the vitamins and sugar content of berries to be complete, the fruit should be processed within a maximum of one to two hours after harvest, or the harvested fruit should be sorted and stored in a cool basement or refrigerator (1-3 ° C) without washing. Fruits should be picked very carefully. It is necessary to cut the mulberry and raspberry with a bandage, because the juice flows from the damaged area of the flesh of the fruit, where it creates conditions for the growth of microorganisms. Once the fruits are sorted, they are washed and placed in a basket or sieve, where the fruits are left in water for 1-2 minutes. The ground smoke is slowly rinsed by hand, adding 2-3 kg to a bucket of water. In this case, the sand and soil (mud) move to the bottom of the bucket, and the fruits rise to the surface of the water, they are taken by hand and filtered in the yard. Washed earth is cleaned of mulberry and raspberry petals, the bunch of currants, gooseberries and other berries are removed. Currants and gooseberries contain a lot of acids, and the drink becomes





sour. In order to reduce the acidity, the juice of currants and gooseberries is prepared by mixing the juice of apples, cherries or other less acidic fruits. Sometimes water or sugar is added before consumption. In order to preserve the juice for a long time, it is necessary to completely kill the microorganisms or prevent their growth. The juice of the berries is sour, in which yeast and mold can appear. However, bacteria that are harmful to humans do not grow in sour juices. It is prepared at home by heating, pasteurizing and boiling the juice so that it does not spoil. All juices can also be boiled in a pot, in which the glazed pot is filled with glass bottles, bottles and jars steamed in boiling water heated to 95 °, and tightly closed with lacquered copper lids dipped in boiling water. The jars are then inverted and a hot cloth is placed on top, which is sterilized by the heat generated by it. Can be canned in any glass jar during pasteurization. In canning, the juice, heated to 85 ° in a small container, is poured into a sterilized container. In this case, the jar is not filled, leaving a gap of 1.5 cm to the lid, and 2 cm in the bottles. Jars filled with juice are closed with a boiled stopper (stopper) or lids, something is poured into a saucepan, the water is heated to 50 °, and jars are placed on top. The water in the pot should be equal to the juice in the jars, the temperature is maintained at 85 ° C. Half-liter jars and bottles are pasteurized for 15 minutes, one-liter for 20 minutes, three-liter for 30 minutes. At the end of pasteurization, the jars of juice are removed from the water, the lid is tightly closed, the jar is turned upside down, the bottles are laid (sideways) and stored until cool. Once the bottles have cooled, the stopper is waxed or waxed.

Black Currant Juice

Juice from black currant fruit is a source of vitamin C, which is rich in vitamin R. Black currant is rich in potassium, phosphorus salts, iron. It contains 7-8% of sugar and 3% of acids. Black currant juice is black in color, fragrant, sour-tasting. Before consumption, 40% sugar syrup is added to it depending on the taste. All types of mountain currants grown in the mountains are suitable for making juice. Sorted, washed fruits are crushed with a wooden mallet in a mysterious saucepan or passed through a meat grinder. To one kilogram of crusty mass is added 300 g of heated water at a rate of 300 °, heated to 60 °, and at such a temperature the lid is kept closed for half an hour with the lid closed. The juice is then squeezed from the hot crust mass and processed in the heat. Better than black currants, it is better to make a fleshy natural juice. To do this, the fruits are washed, soaked in heated water (1 kg of fruit per 600 g of water) and heated to 65 ° with stirring, then passed through a sieve. 40% sugar syrup is poured into the prepared meat thick juice, then boiled and canned. Black currant juice is rich in vitamin C and is useful for patients with avitaminosis.





Colored Currant Juice

Juice from colored currants does not have a distinct taste and aroma. To improve the taste and aroma, it is mixed with one of the raspberry, black currant or apple juices and sugar is added. If there is no other juice, the juice itself is made naturally from colored currants, and 20 percent sugar syrup is added according to taste before consumption. The fruits of colored currants are very delicate, it is better to process them for a day or two after harvesting, the fruits are washed, dried, spoiled, the band is removed, otherwise they give an unpleasant greenish taste, then the fruits are crushed with a fork, press, juice squeezer, you can also use a meat grinder. The resulting juice is processed into heat. Sterilized juice can be prepared using a juicer.

Black Currant Jam

The bunch of fruits is cleaned of flower residue and soaked in boiling water to soften the skin. Then add to the boiling syrup. To make syrup, 1 kg of fruit takes 1.5-2 kg of sugar and 1-1.5 cups of water. First over a high heat, then reduce the heat and simmer until the jam is ready, not allowing it to overcook. Overcooked jam is tasteless and the fruit hardens.

Povidlo

The fruits are cleaned, sorted, put in a glazed saucepan or copper pan, add a little water so that it does not sink to the bottom, boil until completely softened, mix with a wooden spoon. When ripe, the fruits are sieved. The sieved mass is concentrated until $1/3 - 1/4$ of the initial amount remains. Add sugar (4-5 kg of sugar per 10 kg of mass) to the thick mass, mix well and boil until ready. When cooked, the thickness is determined: a spoonful of povidlo is placed on a plate and divided with a spoon, if its trace disappears after a while, the pavidlo is considered ready. The povidlon is then poured into a preheated pan, the lid is tightly closed and placed in a cool place for storage.

Currant Pickle

Currants are dried at home, sparsely spread in the oven or oven. Dried currants are used for baking pickles, compotes, various pastries.

Grated Sugar Currant

Washed, peeled currants are dried in the shade on a clean towel, spreading sparsely. You can put a fan for faster drying. Dried fruits are placed in a clean bowl, crushed with a wooden handle or passed through a meat grinder, then mixed with sugar (2 kg





of sugar per 1 kg of fruit). If the fruit is sweet (from the golden currant variety), 1.5 kg of sugar is enough for 1 kg of fruit. Grated sugar currants are mixed with a wooden spoon until the sugar dissolves. The prepared mass is placed in well-washed jars, covered with parchment paper, the mouth is tied with a canopy or tightly closed with a lid and stored in a dark and cool, dry place. It is pasteurized for good storage in hot climates. Mulberry, chakan and other berries can be prepared in the same way.

Red currant jam

From the red currant comes a jam that is less fragrant than the black currant, but beautiful in color, the fruit is carefully separated from the bunch, washed in cold water and drained. The fruit jam is placed in a baking dish, poured over it a medium-thick boiling syrup, cooled for several hours and begin to boil. Once the sugar has melted over low heat, the fire is intensified, and after boiling, cook on medium heat for 3-5 minutes. The pan is then removed from the heat and the foam is removed in a circular motion, then put back on the fire and the resulting foam is removed, this process is repeated several times until the foam is finished. It is dug to keep it from burning. One kg of fruit is filled with 1.5-2 kg of sugar.

Ordinary black currant

Fruits are cleaned from the band, unripe, damaged ones are collected. Selected fruits are washed in cold water, put in boiling water for 2–3 minutes, then cooled. The water is drained and the fruits are dried. Then place in clean jars, pour boiling water or a boiling syrup (250–350 g of sugar per 1 liter of water) and sterilize with a lid on: half-liter jars boil for 8–10 minutes, a liter for 10–15 minutes, then immediately tighten so that it is closed. Compotes, sauces and jams can be made from natural black currants.

Black Currant Jam

The fruits are sorted, washed and then kept in boiling water for 3-5 minutes. Unripe fruits should be crushed with a wooden spoon. Add sugar or syrup to the cooked fruit and boil until ready. 1.4 kg of sugar should be added to 1 kg of fruit.

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