

## **TOMATOES AS A SOURCE OF LYCOPENE**

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Tomatoes are in great demand in all countries and in different traditions. In folk medicine, a decoction of tomato leaves was made in the treatment of rheumatism, fungal diseases, ulcers, sciatica. Since, not only in the fruit of tomatoes there are useful components, but also in the tops of tomatoes. The composition of the tops contains essential oils and organic acids.

Not only fresh tomato fruits have useful properties, but also dried tomatoes have BAS, lycopene, beta carotene, vitamin C and flavonoids. Lycopene is the main component that gives the fruit a bright red color. Lycopene reduces the risk of developing certain types of cancer (prostate, breast), has a beneficial effect in the treatment of lung cancer, stomach, esophagus, pancreas, bladder and cervix. In addition, this component reduces the risk of cataracts and sunburn.

In addition to the main characteristic of lycopene, it gives a red hue, but even now lycopene is considered one of the best antioxidants among other carotenoids. Lycopene from tomatoes is obtained by grinding the fruit to the state of tomato juice, the pulp of which is extracted, using ethyl acetate as a solvent. The final extract consists of tomato oil containing both lycopene and a number of other components, which include fatty acids (myristic acid, palmitic acid, steric acid, oleic acid, linoleic acid, begenic acid and others), phosphoric compounds, phospholipids.

The chemical structure of lycopene is a long chain with conjugated double bonds. The composition of lycopene does not change when stored at room temperature and at a temperature of 4 °C, for 37 months. Lycopene is susceptible to chemical changes such as oxidation, isomerization when exposed to light, heat and oxygen. The state of lycopene depends on the specific food product to which it is added, as well as on the production process.

The obtained lycopene extract from tomatoes is also intended for use in the following categories of food; bakery products, breakfast cereals, dairy products, carbonated drinks, fruit and vegetable juices, sweets, soups, salad dressings. Lycopene extract obtained from tomatoes can also be used as a food additive in products where the presence of lycopene provides a certain function (for example, as an antioxidant or other beneficial to human health).