IN DIABETES AND FOLK MEDICINE, TOPINAMBUR IS THE MEDICINAL PROPERTIES OF THE (HELIANTHUS TUBEROSUS) PLANT.

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Annotatsia: The article shows the medicinal properties of the topinambur plant and the ways in which various products made from the plant are used and applied in different Sox are illuminated.

Key words: complications, nodular fruit, vitamin, microelement, diabetes mellitus, insulin

ЛЕЧЕБНЫЕ СВОЙСТВА РАСТЕНИЯ ТОПИНАМБУР - (HELIANTHUS TUBEROSUS) ПРИ САХАРНОМ ДИАБЕТЕ И В НАРОДНОЙ МЕДИЦИНЕ.

Аннотация: В статье показаны лечебные свойства растения топинамбура и освещены способы использования и применения различных продуктов, приготовленных из этого растения, в различных отраслях промышленности.

Ключевые слова: сложные цветы, узелковые фрукты, витамины,микроэлементы, сахарный диабет,инсулин

INTRODUCTION

Topinambur- (Helianthus tuberosus) is a perennial herb belonging to the compound legume, a tuberous fruit. Topinambur is native to North America. In the 16th century it was brought to France, and in the 17th century to England. In addition, the plant has actively spread to other countries, such as Belgium, for example, giving it the nickname "underground artichoke". Topinambur-as an ornamental plant that decorates our yard with its unique yellow flowers, the root of this plant, familiar to many of us, is a unique product with many beneficial properties. Topinambur is not only an ornamental plant, but also a healing plant for a thousand troubles. And among our people there are many names of this plant, called yernok, such as “wild sunflower“, “Jerusalem artichoke”. This plant was not given such a name in vain. The chemical composition of this nodular plant has a rather strong healing property. There are more than 700 species of medicinal plants in Uzbekistan. They are used in scientific and folk medicine from about 120 plant species growing and cultured in natural conditions.

RESEARCH MATERIALS AND METHODOLOGY

Jerusalem artichoke grows in many summer cottages, the root of this plant is a unique product with many useful properties. It is eaten raw, added to various dishes, with which tea is prepared and decoctions are prepared. Jerusalem artichoke is a perennial herbaceous tuberous plant of the genus sunflower in the Astrovye family. The above-ground part is long shoots that reach 3 m in height, the leaves are ovoid, up to 20 cm long and pointed at the ends. The leaf plates are covered with hard hairs on top and light hairs on the back. Bright yellow flowers resembling small sunflowers appear on the shoots. The edible part of Jerusalem artichoke is located underground and is tuberous tubers. They are oblong, Oval, pear-like. The pulp can be white or cream with a yellowish tint. The roots are covered with inedible brown skin. Depending on age and hybrid, their weight can range from 20 to 250 g, and their number can reach 40 pieces. The plant prefers moist

soil and bright areas, but does not grow well in excessively moist, acidic and salty soil. The value of Jerusalem artichoke as a fodder, vegetable, technical and medicinal crop depends primarily on the chemical composition of the plant. Jerusalem artichoke contains a large amount of dry matter(up to 20%), up to 80% of which is a fructose polymer homolog - insulin – polysaccharide, the hydrolysis of which leads to the formation of sugar - fructose, which is harmless to patients with diabetes. Jerusalem artichoke has a rich collection of a little fiber and microelements. The tubers of Jerusalem artichoke contain iron 10.1 mg%, manganese-44.0 mg%, calcium - 78.8 mg%, magnesium - 310.7 mg%, potassium - 1382.5 mg%, sodium-17.2 mg%. Jerusalem artichoke actively collects Silicon from the soil, and the content of this element in tubers is up to 0.8% for dry matter. In iron, silicon and zinc, it prevails over potatoes, carrots and beets. According to the content of vitamins B1, B2 Jerusalem artichoke potatoes, carrots and beets are more than 3 times richer. An important difference between Jerusalem artichoke from other vegetables is manifested in the high content (up to 3.2% for dry matter) of 8 amino acids in tubers, including important proteins that are synthesized only by plants and are not synthesized in the human body. 1 kg of green mass contains 70 mg of carotene (provitamin A). In the process of plant ontogenesis, the amount of organic acids can be from 8 to 12% of the dry mass of leaves. Organic acids are expressed in Jerusalem artichoke leaves not only by the Di - and tricarboxylic acids of the Krebs cycle, but also by polyoxycylates, which are the primary oxidative acids of sugars. It is mainly malic, fumaric, in smaller quantities-citric and succinic acids. The tubers of Jerusalem artichoke are used in raw form, as well as baked, fried. Vegetable soups, mashed potatoes, salads, pasta are prepared from them. The high content of insulin in the root allows Jerusalem artichoke to be used as a raw material for obtaining diabetic foods: flour, juice, syrup, confectionery and bakery products. The feature of collecting insulin in itself is the unique ability of Jerusalem artichoke. Insulin-containing products have been found to have positive effects on metabolism regulation in diabetes, atherosclerosis.

RESEARCH RESULTS AND DISCUSSION

In patients with diabetes who consume Jerusalem artichoke, a decrease in blood sugar is associated with a high content of insulin, dietary fiber (pectin, cellulose), vitamin and mineral content. Jerusalem artichoke is inextricably linked with its therapeutic use in folk medicine for food. It has a beneficial effect on the human body in cases of Stress, low energy, intoxication, ischemic heart disease, anemia (anemia), tuberculosis, diseases of the gastrointestinal tract, high acidity, constipation, skin diseases, pyelonephritis, osteochondrosis, burns.widely used as effective cosmetics. From Jerusalem artichoke, you can prepare many delicious and healthy dishes: salads, okroshka, cutlets, omelet, mashed potatoes. Roasted, boiled, baked, roasted Jerusalem artichoke is great with mushrooms, chicken, zucchini and other additives. Due to the rich composition of Jerusalem artichoke, it has a lot of useful properties. There is a trace of amino acids in this plant: arginine. Stimulates the immune system, strengthens nutrition and enhances the synthesis of growth hormone, and also has a rejuvenating effect on the skin. Valine this amino acid helps to increase muscle coordination, participates in tissue regeneration, has a calming effect on the nervous system, which makes it indispensable for many mental disorders, such as depression, and also increases the body's resistance to pain, heat and cold. Histidine. It is a component of hemoglobin that promotes tissue growth, so it is very important in the treatment of stomach ulcers. It is also used for allergies and anemia. Lysine. It is part of proteins, has a stimulating effect to convert fats into breakdown energy. Isoleucine. It is involved in the regulation of the body's energy supply and sugar levels. Methionine is able to lower cholesterol and also

prevents the formation of fat deposits in cookies. Leysin. necessary for feeding with targeted fabric. Stimulates Protein synthesis, allows you to resist the destruction of the amino acid molecule and saves glucose. Tryptophan it promotes an increase in muscle mass and at the same time reduces fat delay, helps stimulate the production of growth hormone, promotes sleep disorders and Chronic Fatigue Syndrome. Phenylalanine is necessary for the synthesis of endorphins and the production of the steroid hormone thyroxine. Jerusalem artichoke is also able to prevent and replenish the deficiency of many minerals: calcium. It is a building material of bone tissue. Potassium. Its deficiency causes neuralgia. Potassium deficiency can be observed after diuretics, excessive sweating and prolonged vomiting and diarrhea. Manganese. It is necessary for the stable functioning of the gonads and blood formation. Magnesium. It is involved in the regulation of the transmission of nerve impulses, metabolic reactions and muscle contraction. Silicon. Helps to accelerate oxidation-reduction processes, prevents the development of bone strength disorders and atherosclerosis. Sodium. It is necessary for the transmission of impulses in the nervous system, as well as for muscle contraction. Iron. It is a component of hemoglobin that prevents anemia and stimulates respiratory processes. Jerusalem artichoke is rich in vitamins, especially Group B, in addition to amino acids and minerals: B1 (thiamine) it is essential for the health of the nervous and digestive systems, as well as the heart. B2 (riboflavin) is necessary for the stable functioning of the thyroid gland and reproductive system. B3 (nicotinic acid) promotes the absorption of ascorbic acid. B5 (pantothenic acid)is involved in metabolic reactions and the production of hemoglobin. B6 (Pyridoxine) is also necessary for the production of hemoglobin and, in addition, is involved in the transmission of nerve impulses between neurons and muscles. B7 (biotin) is involved in the regulation of Protein and fat metabolism and the production of the enzyme glucokinase. Cardiovascular diseases. Pour 250 g of freshly peeled and grated Jerusalem artichoke with 500 ml of water. Place in a water bath and cook for 15 minutes. After cooling the mixture, place the liquid in a separate bowl. You need to take 100 ml of water 2-3 times a day.it helps to reduce the manifestation of hypertension, reduce the likelihood of blood clots, coronary artery disease and tachycardia, as well as prevent atherosclerosis Heartburn. Fresh juice of Jerusalem artichoke relieves inflammation of the mucous membrane of the stomach and intestines, reduces the acidity of gastric juice, and therefore stomach for a number of its diseases: gastritis, colitis, ulcers. To prevent exacerbation of diseases of the gastrointestinal tract, juice is taken in spring and autumn for 10-14 days. Decrease in hemoglobin. With anemia, 15 g of Jerusalem artichoke flowers should be poured 600 ml of boiling water and left to infuse for 8 hours. Then put in a separate bowl and take 100 ml half an hour before meals. Deposition of salts in the joints. Grind 2 kg of fresh stems and leaves of Jerusalem artichoke, add 1 kg of chopped fresh root vegetables to them. Pour the mixture with water so that it completely covers the raw materials. Put on low heat and cook for 30 minutes. Then strain into a separate container and add the broth every time you take the bath. You can stand in such water for 15 minutes, the course of treatment is 20 sessions. The procedure can be repeated after a break of 2 weeks. Polyarthritis, rheumatism and arthrosis. Fresh juice of Jerusalem artichoke should be drunk 70 ml with food 3 times a day. Course: 1-2 months. Treatment of purulent wounds, wounds and eczema. It is necessary to crush the fresh root of Jerusalem artichoke, squeeze out the juice, moisten the bandage in it and apply it to the wound with a compress for 1 hour. Repeat twice a day (morning and evening) until the damage disappears. Runny nose, rhinitis. Freshly squeezed juice of Jerusalem artichoke is dripped 10 drops into each nostril 4 times a day. If vision worsens. Mix 100 ml of fresh Jerusalem artichoke juice with 10 ml of honey and take 20 ml of the mixture four times a day for a week. To consolidate the effect, the

course can be extended to three weeks. Vitamin deficiency. Mix equal parts fresh juice of carrots and Jerusalem artichoke and drink 250 ml for breakfast for a month. Also, according to folk recipes, the juice of Jerusalem artichoke helps the body to cope with intoxication and improve the work of the gastrointestinal tract. To do this, the drink should be consumed every two hours from 50 ml, but the daily rate should not exceed 400 ml. For diabetes Jerusalem artichoke contains polysaccharides, in particular inulin, in addition to many vitamins and minerals. With its help, root vegetables are very popular in the diet of diabetics. Inulin is a soluble dietary fiber that breaks down into fructose in the body, which does not cause a sharp jump in glucose levels, but rather ensures its slow absorption.

CONCLUSION

Jerusalem artichoke is also a source of water-soluble fiber and dietary fiber. This will help cleanse the inner surface of the intestine and prevent constipation. Jerusalem artichoke is widely used in folk medicine. In addition, inulin stimulates the pancreas to synthesize large amounts of insulin, which is also important for diabetics. Regular consumption of Jerusalem artichoke is useful for people with diabetes of any type, and syrup from this root vegetable is a suitable sugar substitute.

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