USING WILD HAWTERN OIL FOR FOOD PURPOSES

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Abstract. The article presents the results obtained from the study of physicochemical and organoleptic characteristics of wild hawthorn powder. The results of the research will allow us to develop food technology semi-finished products with powders from fruits, pulp with skin and seeds of hawthorn.

Key words: processed raw materials, wild hawthorn, *Crataeguss anguinea Pall*, physical and chemical properties, organoleptic characteristics.

Herbal additives in food products perform not only a nutritional function, but also provide the necessary complex of rheological and other physical and chemical properties of the finished product products.

This is well known and very common plant found throughout the area Central Asia. Hawthorn grows in low mountains, valleys, takes root well in gardens and orchards. Hawthorn fruits are eaten both fresh and in the form of jams, compotes The tree is also used for landscaping public gardens, gardens A decoction of hawthorn bark is used to dye fabrics red. The plant has been used in medicinal practice since ancient times.

Hawthorn varieties contain essential oil. According to the literature, hawthorn fruits are rich in flavonoids - quercetin, hyperoside, vitexin. The fruits also contain organic acids - citric, oleanic, ursolic, crotegus, caffeic, chlorogen, and flavonoids.

Hawthorn fruits contain carbohydrates - glucose (2.02 mg/g), fructose (2.21 mg/g), sucrose (0.23 mg/g), arabinose (1.82 mg/g), xylose (3.88 mg/g), mannose (4.25 mg/g), galactose (1.31 mg/g).

Over 150 substances have been identified - carotenoids, tannins substances, fatty oils, pectins, monoterpenoids, triterpenes and flavonoid glycosides, β-sitosterol, choline, sugars, vitamins, steroids, sesquiterpenoids, lignans, hydroxycinnamic acid, organic acids and nitrogen-containing substances, flavanocoumarins crategusins A and B. From polyphenols identified epicatechin, procyanidin B2, B5, C1, hyperoside, isoquercetin and chlorogenic acid. In fruits Crataegus oxyacantha identified β-sitosterol-3-O-β-D-glucopyr noside, lupeol, β-sitosterol, betulin, betulinic, oleanolic acids, chrisin.

Hawthorn flowers contain salts K, Fe, S, I. Fruits hawthorn contains large amounts of I, vitamins B1, B2, PP, C, E.

Hawthorn flowers and leaves contain oligomeric and polymeric procyanidins. Hawthorn leaves contain flavonoids vitexin-4"-O glycoside and vitexin - 2" -O-rhamnoside, biphenyl-5-ol-3-O-β-D-glucoside, 3,4'-dimethoxy-biphenyl -5-ol-4-O-β-D-glucoside, (E)-6-(benzoyloxy)-1-hydroxyhex-3-ene-2-O-β-D-glucoside, shanienoside, erio dectiol, and 2 β-O-rhamnosyl vitexin - [132; 174]. The content of flavonoids in leaves is 0.25 - 0.29%, in fruits 0.12 - 0.14% - [38].

The glycoside esculin has been identified in hawthorn seeds, vitexin, organic acids, proanthocyanidins, dimethoxyben zaldehyde, balanophonin, budlenol.

Sesquineolignans have been identified in hawthorn seeds - hathornesquiins K and L, lignans - hawthornins A-H. The roots of the plant contain aconitine - [2; 20].

In folk medicine, wild hawthorn oil is often used for various heart diseases and fatigue of the heart muscle. It has the ability to selectively dilate coronary and cerebral vessels, which allows targeted use of plant preparations to improve oxygen supply to the myocardium and brain neurons. Reduces excitement of the nervous system, improves metabolism, normalizes heart rhythm. Reduces the permeability of the walls of blood vessels and capillaries. Helps reduce blood cholesterol levels. Hawthorn oil helps with insomnia, and it not only eliminates the symptom, but normalizes sleep and the general condition of the body. Hawthorn oil helps to recover from serious illnesses, lower blood cholesterol levels, and helps lower blood pressure in the first stages of hypertension. A good effect is obtained by consuming hawthorn oil for dizziness, shortness of breath, atherosclerosis, and increased thyroid function. Its use normalizes the condition of the female body during menopause, with atherosclerosis and cardiac neuroses.

Wild hawthorn oil is not an ambulance for quickly relieving chest pain and normalizing heart rate, but a therapeutic and prophylactic agent with long-term effects on the cardiovascular system. Even with very long-term use of hawthorn oil, no serious contraindications or side effects have been identified:

- eliminates heart rhythm disturbances
- normalizes blood pressure
- helps reduce blood cholesterol levels
- relieves tension and stress

Wild hawthorn oil has a good effect on the mucous membrane of the nose, respiratory tract, and gastrointestinal tract.

Ursolic acid in hawthorn has a vasodilator, antimicrobial and anti-inflammatory effect. Hawthorn oil has a mild diuretic effect and antitumor effect. Triterpene acids in its composition increase blood circulation, dilate coronary and cerebral vessels, improving the oxygen supply to the heart muscle and brain neurons. It has a cardiotonic effect, enhancing myocardial contractions and simultaneously reducing its excitability and normalizing heart rhythm.

Wild hawthorn oil is also recommended for neuroses of the esophagus, astheno-neurotic conditions, menopausal syndrome, some diseases of the liver and biliary tract, insomnia in cardiac patients, hypertension, arrhythmia, tachycardia and other functional disorders of cardiac activity.

The beneficial properties of hawthorn oil are manifested in the treatment of the thyroid gland and atherosclerosis. Hawthorn oil lowers blood cholesterol, normalizes blood pressure, helps relieve headaches, treat allergies and epilepsy.

It is useful for patients with diabetes and helps to lose excess weight, as it improves the function of the intestines and liver, which leads to the activation of the metabolic process.

Organoleptic assessment of the quality of fruit and pulp powders with peel showed that they have the correct shape, glossy surface, porous structure and are distinguished by a pleasant light aroma of hawthorn. The seed powder retains the color characteristic of the control sample - light brown with a golden hue; with additives from fruits and pulp with skin, the color intensity increases to light brown and brown respectively.

Assessment of the quality level of the powder indicates that the indicators are high in terms of color, taste and aroma.

It also made it possible to develop a technology for obtaining oil from the seeds of wild local hawthorn. The extraction process we carried out in a laboratory

installation proved that oil was obtained from peeled and crushed wild hawthorn seeds. The resulting oil from the kernels of wild hawthorn had a dark red color and a light-yellow tint, and the smell was aromatically specifically similar to hawthorn.

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