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Research Article

DEVELOPMENT OF MARKETABLE PROPERTIES OF PROCESSED LEMON

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ABSTRACT

A well-known citrus plant, very common in the culture of Central Asian countries. Lemons grown in greenhouses, hotbeds. It found wild in Southeast Asia. It is eaten everywhere. The plant, due to its taste, flavoring properties, is widely used in the confectionery, wine and vodka industries. Lemons used in cosmetology. The plant has been used in medical practice since ancient times. In article, the review of literature on medicinal and preventive properties of fruits of a lemon is provided in ancient, modern traditional and scientific medicine. Citrus L, as an evergreen subtropical plant, successfully used in Uzbekistan under protected ground conditions as an industrial crop, and indoors as an ornamental crop, but the success of this crop depends on the variety and cultivation technology.

KEYWORDS

Lemon, cultivation technology, development, useful, health.

INTRODUCTION

Citrus lemon Rissa. A well-known citrus plant, very common in the culture of Central Asian countries. Lemons grown in greenhouses, hotbeds. It found wild in Southeast Asia. It is eaten everywhere. The plant,

due to its taste, flavoring properties, is widely used in the confectionery, wine and vodka industries. Lemons used in cosmetology. The plant used in medical practice since ancient times.

Chemical composition: The plant contains citric acid, sugars, vitamins B₁, B₂, B₃, P, C, coloring matter – hesperidin. In the peel of lemon fruits, an essential oil was determined, consisting of limonene, citral, D-pinene, camphene. Lemon essential oil contains limonene (29.9%), β -pinene (12.0%), sabinene (9.0%), citronellal (9.0%), and citronellal (5.8%). Phenolic substances identified in lemon juice – hesperidin, eriocitrin, chromogenic acid, neoeriocitrin; carotenoids – β -carotene, β kryptoxanthin, lutein, zeaxanthin [4]. Lemon seeds contain essential oil, bitter substance limonin, branches and leaves – essential oil. The bark of the tree contains the glycoside citronine.

All healers of antiquity – Galen, Hippocrates, Avicenna and others – wrote about the healing properties of lemon. The nature of the lemon was determined as cold in the II degree and dry in the I degree. Taking lemon inside cures headaches, dizziness, eliminates hops, treats a hot swelling of the throat, is useful for palpitations, lowers blood pressure, extinguishes the fire of the stomach, removes hot substances from the liver and stomach, and strengthens them. Lemon dissolves, cleanses, tears off thick matter. However, it is harmful to the nerves and with a cold cough. When consumed on an empty stomach, it weakens the intestines and leads to joint pain. It advised to use it with sugar or honey. It should be noted that lemon on an empty stomach leads to insomnia [1].

Lemon juice, when applied externally, treats allergies, cleanses the skin, and is useful for dry skin. Lemon juice is cold in the II degree and balanced in terms of dryness and moisture. It is useful in inflammation of the throat and oral mucosa, in all diseases of children and poisoning. Lemon peel warms the stomach, removes winds and large worms [4].

Lemon seeds are hot in the II degree and dry in the I degree. They are the antidote. However, before use,

they separated from the peel. Salted lemon strengthens the stomach. Lemon oil is useful for paralysis and curvature of the face.

In modern folk medicine, lemons used very widely. Lemon fruits used for colds, flu, low acidity of the stomach, as a diuretic, sedative. Infusion of lemon peel used to remove worms. Lemons are used in the treatment of diabetes, hypertension. Wash the wounds with lemon juice [2].

Women use lemon slices as a harmless contraceptive. In modern scientific medicine, lemons are also widely used. Lemon is an excellent tool for dietary nutrition of patients with hypertension, diabetes. A decoction of the peel used as a diuretic [3]. All parts of the plant, lemon fruit, and its oil have antioxidant properties.

It believed that the consumption of lemon reduces the biological age of men [1]. The lemon diet, a low-calorie diet that consists of a mixture of organic maple and palm syrups and lemon juice for a 7-day abstinence period, reduces visceral fat and insulin resistance through heat restriction and might have a potential beneficial effect on risk factors for cardiovascular disease diseases [2].

Lemon juice has antibacterial properties Lemon-honey suspension (1 part lemon juice + 2 parts honey) is used externally to remove freckles and other skin spots. Lemon juice, when applied externally, kills fungi.

In African countries, it is common for women to washing the perineum with lemon juice. Scientific studies have identified an association between this procedure and the prevalence of cervical dysplasia [3]. Experimental studies have shown that citrus peel limonene has a sedative effect by regulating dopamine synthesis and acting on serotonin receptors. Lemon oil has sedative and antidepressant properties.



Consumption of lemon juice in a normal dose increases blood circulation to the brain, thereby improving cognitive functions [4]. Taking lemon juice with pomegranate juice has an anxiolytic and antidepressant effect. Lemon juice has antioxidant and analgesic properties [2]. Inhalation of lemon oil stimulates the dopamine system, reduces the conduction of pain impulses, providing an analgesic effect. Lemon oil reduces lipid peroxidation in the hippocampus, thereby preventing the development of neurodegenerative diseases. Lemon oil inhibits the enzymes acetylcholinesterase butyrylcholinesterase (HGNC symbol BCHE; EC 3.1.1.8), has a neuroprotective effect. Lemon juice, both in pure form and in combination with pomegranate juice, increases memory capacity, especially short-term memory. Lemon juice, enriched with fruit juices, significantly reduces cognitive impairment during aging. Japanese researchers noted that frequent consumption of citrus fruits was associated with a lower risk of dementia. A mixture of chokeberry and lemon juices has pronounced anticholinesterase properties.

Narirutin, a lemon flavonoid, has the ability to inhibit β -amyloid accumulation and may serve as a therapeutic agent in the treatment of Alzheimer's disease. Tangerine has therapeutic potential in inflammatory and degenerative processes in the nervous tissue, accompanied by microglial activation. Nobility and tangerine flavonoids isolated from the peel and other parts of citrus fruits have neuroprotective effects in vitro and vivo experiments and are promising in the prevention and treatment of Alzheimer's and Parkinson's diseases. Naringin lemon prevents violations of the synthesis of dopamine in the brain, prevents the development of Parkinson's disease.

Randomized, placebo-controlled clinical trials have shown that taking a nasal spray consisting of lemon

and quince has a pronounced anti-allergic effect in patients with allergic rhinitis on plant pollen [3]. Experimental studies have shown that lemon hesperidin effectively prevents oxidative stress and immunological damage in brain cells in experimental autoimmune encephalomyelitis. Lemon oil is used to correct the smell and taste of medicines. Lemon oil has a significant lipolysis effect. Randomized, placebo-controlled clinical trials have shown that lemon flavor is effective in preventing nausea and vomiting in pregnant women.

Due to the high content of polyphenols, lemon peel has an antioxidant, antigenotoxic, antitumor effect [5]. Eriocitrin, a lemon flavonoid, due to its antioxidant properties, stops the spread of hepatocellular carcinoma cells. Extracts of lemon and its seeds prevent the occurrence of breast cancer. Limonoids have the potential to prevent estrogen dependent breast cancer. Citrus limonoids in combination with curcumin prevent the occurrence of colon tumors. Naringenin is a citrus flavonoid with chemopreventive and antitumor properties. A meta-analysis of scientific publications has shown that taking citrus juice, including lemon juice, prevents the development of stomach cancer, bladder cancer.

Lemon essential oil has schistosomacidal impact. Limonoid nomilin has a hypoglycemic effect. Lemon flavonoids have a therapeutic effect in metabolic syndrome. Randomized, placebo controlled trials have shown that taking lemon peel extract reduces systolic pressure, low-density lipoprotein and body mass index in obese children. Experimental studies have shown that the intake of orally, lemon peel extract has therapeutic potential in the treatment of chronic diabetic wounds. Aurapten is the monoterpene coumarin of lemon reduces mean systolic blood pressure in hypertensive rats. Lemon juice and



therapeutic walking significantly reduce blood pressure [3].

Among citrus fruits, anticoagulant properties are shown max for a lemon. The use of garlic with lemon juice leads to the normalization of the concentration of lipids, fibrinogen and blood pressure in patients with hyperlipidemia. Lemon peel, due to its antisecretory properties, effects on intestinal motility has an antidiarrheal effect [1]. Lemon Naringenin Prevents Nerve Damage with a stroke. Neohesperidin from citrus fruits, including lemons, inhibits the process of osteoblast differentiation in ovariectomized rats. Citrus heptamethoxyflavone inhibits the activation of osteoclasts in inflammatory conditions, which can be in the treatment of periodontitis [4]. Lemon peel is effective in the treatment of kidney stones and used to prevent the disease and its recurrence – the use of garlic with lemon juice leads to the normalization of lipids, fibrinogen and blood pressure in patients with hyperlipidemia. Lemon peel, due to its antisecretory properties, effects on intestinal motility has an antidiarrheal effect. Lemon Naringenin Prevents Nerve Damage with a stroke. Neohesperidin from citrus fruits, including lemons, inhibits the process of osteoblast differentiation in ovariectomized rats.

Citrus heptamethoxyflavon inhibits the activation of osteoclasts in inflammatory conditions, which can be in the treatment of periodontitis. Lemon peel is effective in the treatment of kidney stones and used to prevent the disease and its recurrence – Experimental studies have shown that citrus flavonoids and lemon peel extract inhibit the crystallization process in rats with hyperoxaluric conditions.

Lemon essential oil has a cytoprotective effect against damage to cellular structures caused by aspirin. This oil prevents damage to the kidneys and liver by aspirin. Experimental studies have shown that a 50% alcohol

extract of lemon leaves reversibly inhibits spermatogenesis in mice [4]. Lemon lod extract protects the testicular apparatus, intestines and pancreas when taking cyclophosphamide.

Hesperidin prevents damage to the testicular apparatus by the chemotherapy drug cisplatin. Naringenin in citrus fruits, thanks to its antioxidant properties, protects against damage to body cells in case of poisoning with arsenic salts. Lemon juice has no effect on the pharmacokinetics of sildenafil.

Lemon contraindicated in cases of increased acidity of gastric juice, acute kidney disease.

Based on ancient Persian medicine, Tajik researchers determined that the use of acidic foods, including lemon juice, leads to a change in blood pH, urine, glucose tolerance, an increase in blood sugar and the level of the main marker of prediabetes – glycated hemoglobin, which the authors called the term prediabetes.

To combat the tick, the most acceptable biometod: especially phytosailius. They plant it in the foci of infection. It perfectly tolerates significant temperature changes, moreover, it quickly adapts to chemical plant protection products, which sometimes have used in parallel to fight, for example, whiteflies. Of the chemicals, preference given to citcor and aktellik.

At home and in small greenhouses against harmful insects, tobacco dust, garlic, onions, laundry soap used in various combinations and separately.

As a preventive measure, lemon sprayed with a solution of potassium permanganate or Bordeaux liquid.

Thus, in modern scientific medicine, lemon is recommended for dietary nutrition of patients with



cardiovascular diseases, atherosclerosis. Experimental studies have shown that naringenin prevents the development of myocardial hypertrophy in arterial hypertension [1]. Lemon juice increases the membrane fluidity of red blood cells, which is of great importance for the prevention of cardiovascular diseases. Randomized, placebo-controlled studies have shown that drinking lemon juice significantly reduces mean aortic pulse wave velocity.

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