



Sloe juice - proven benefits and benefits of drinking a delicious drink

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Abstract. Thorn, or blackthorn, is a low shrub with thorny branches, often used in landscape design as an original hedge. The berries of the plant are also especially popular - both in the field of cooking and among admirers of traditional medicine. Small blue-black plums, slightly tart with a pronounced sourness, blackthorn fruits, which are sometimes called goat berries, are used as original fillings for pies, natural and healthy food colorings. ^[1] They are also used to make a variety of jams and preserves, prepare liqueurs and compotes, use them to make the famous sloe gin in England, and also squeeze out a tasty and very healthy fresh juice. Blackthorn juice belongs to the category of very healing drinks and, according to experts, when used systematically and correctly, it helps solve many health problems.

Key words: sloe, sloe juice, beneficial properties, contraindications, composition, calorie content

Composition and calorie content

Wild plum berries (this is what sloe is sometimes called) are quite juicy (contain 84% water) and low in calories - 100 grams of fruit pulp contains only 54 kcal. In addition, they contain a minimum of fats and proteins (0.3 and 1.5%), some carbohydrates (9.4%), which allows you to include fresh sloe juice in the diet of people who adhere to a healthy lifestyle and strictly monitor their own weight and figure. But sloe juice has gained the greatest popularity among admirers of healthy lifestyle and traditional medicine due to its unique chemical composition.

The natural drink contains the following beneficial vitamins and microelements:

- Potassium - regulates the water balance in the body's cells and supports the healthy functioning of the kidneys, reduces the intensity of allergic reactions, and normalizes blood pressure levels.^[2]
- Phosphorus - takes an active part in the absorption of calcium and promotes the formation of healthy bone tissue - prevents the development of osteoporosis; accelerates metabolism and body recovery processes, has antibacterial properties.^[3]
- Magnesium - regulates blood sugar levels and normalizes heart rate, participates in the production of collagen and helps improve bone mineralization^[4], reduces pain in the joints and relaxes muscle tissue^[5] - prevents the accumulation of lactic acid in them, helps eliminate cramps.^[6]
- Vitamin C has powerful antioxidant and immunostimulating properties, promotes the body's production of its own collagen^[7], prevents the development of scurvy^[8] and is used in the treatment of periodontal disease, thins the blood and prevents the formation of blood clots.
- B vitamins, in particular B3, or niacinamide (good for the skin - evens out tone and eliminates yellowness of the skin, regulates sebum production, relieves itching, irritation and inflammation^[9]), B2, or riboflavin (improves the functioning of the reproductive organs, accelerates metabolic processes, promotes the production of the antioxidant glutathione, which has a positive effect on vision^[10], shows good results in the prevention of cancer^[11], and improves cognitive function^[12].

Sloe fruits also contain tannins, various organic acids, flavonoids (myricetin, catechin, epicatechin^[13], etc.), useful for the body, glycosides, etc.

Top 6 beneficial properties of thorn juice

1. Has an anti-inflammatory effect

It has been proven that sloe juice, rich in flavonoids, has powerful anti-inflammatory and wound-healing properties^[14], which allows it to be used as an analogue of pharmaceutical drugs that are routinely used to relieve inflammatory processes (for rinsing the mouth for stomatitis, tonsillitis, etc.^[15]).

2. Shows good results in the prevention and treatment of oncology

Research shows that the extract obtained from blackthorn berries exhibits high antioxidant activity and has a cytotoxic (destructive) effect on some types of cancer cells - in particular, it shows good results in reducing glioblastoma of the brain.^[16]

3. Improves digestion

Blackthorn fruits contain many beneficial flavonoids and anthocyanins that have prebiotic properties. It has been proven that systematic consumption of thorn juice has a positive effect on the intestinal microbiota and improves digestive processes in general.^[17]

4. Accelerates tissue regeneration

The healing process of wounds, especially with age, slows down for many people. Thorn juice rich in polyphenols helps speed up the process of restoration and regeneration of the epithelium and mucous membranes (by almost 70%, according to the results of studies).^[18]

5. Recommended for the prevention of diabetes

The fruits, rich in biologically active substances (the pulp of sloe berries contains numerous beneficial flavonoids, anthocyanins, polyphenolic acids, etc.) exhibit good antidiabetic activity, which allows us to recommend the drink, freshly prepared sloe juice, as an effective therapeutic agent for the treatment and prevention of diabetes. ^[19]

6. Used in the treatment of diarrhea

Thanks to its antimicrobial ^[20] and astringent properties, sloe juice has been successfully used in the treatment of diarrhea, as well as indigestion and food poisoning.

Harm and features of drinking blackthorn juice

In addition to the above-mentioned beneficial properties, thorn juice also has some contraindications. In particular, it is not recommended for people who suffer from high stomach acidity and have a history of allergies to certain foods, including sloe fruits. In addition, it is recommended to drink the drink in strictly limited doses (no more than 100 ml per day), otherwise, instead of benefit, it can cause harm (for example, lead to an upset stomach).

Research shows that the greatest benefits of blackthorn juice come from diluting it with hot water—contact with the hot liquid maximizes all the beneficial and antioxidant properties of the nutrients contained in the pulp of the berries. ^[21] Also, during the experiments, it was possible to prove that the antioxidant properties of blackthorn fruits are further increased by the interaction of fresh juice squeezed out of them with lemon juice. ^[22]

It is recommended to taste sloe fresh, like any other natural juices, through a straw to minimize the contact of the sweet and sour liquid with tooth enamel and prevent the subsequent development of caries. ^[23]

How to prepare and store sloe juice

Sloe berries initially have a characteristic tartness. But under the influence of low temperatures, as studies show, it disappears. Therefore, to prepare the juice, it is recommended to wait until the first frost and only then pick the fruits from the thorny branches for their subsequent processing.

To obtain juice, blackthorn berries should be carefully sorted, removing debris and spoiled fruits, washed in running water, dried, and then processed using a juicer or pressed through a regular colander with a wooden masher. In the latter case, you can add a glass of water to the squeezed seeds, bring the mixture to a boil and squeeze again, adding the resulting nectar to the initially squeezed juice.

The resulting fresh juice can be consumed immediately - either in its pure form or diluted with water (preferably hot - as mentioned above, it is hot water that allows all the beneficial substances contained in the pulp of thorn berries to be revealed to the maximum) or any other juice: lemon or sweeter (pineapple, raspberry, strawberry ^[24-26], etc.).

You can also prepare sloe juice for long-term storage. For these purposes, the canning method with pre-pasteurization or freezing should be used. It is recommended to store rolled jars of fresh juice for no more than 1 year in a cool, dark place, avoiding direct sunlight.

Expert commentary

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Blackthorn juice is a tasty and very healthy drink, with which you can restore digestive processes without the use of special pharmaceutical products, get rid of skin problems and inflammatory processes in the oral cavity, and even prevent diabetes and cancer. Add this healing fresh juice to your family's diet and see its benefits and effectiveness from your own experience!

Literature

1. Backes, E., Leichtweis, M. G., Pereira, C., Caroch, M., Barreira, J. C., Genena, A. K., ... & Ferreira, I. C. (2020). Ficus carica L. and Prunus spinosa L. extracts as new anthocyanin-based food colorants: A thorough study in confectionery products. Food Chemistry, 333, 127457. DOI: 10.1016/j.foodchem.2020.127457
2. Mironenko, A., & Eliseeva, T. (2020). Potassium (K, potassium) - description, effect on the body, best sources. Journal of Healthy Eating and Dietetics, (13), 59-69. DOI: 10.59316/.vi13.84
3. Voráčová, M., Zore, M., Yli-Kauhaluoma, J., & Kiuru, P. (2023). Harvesting phosphorus-containing moieties for their antibacterial effects. Bioorganic & Medicinal Chemistry, 96, 117512. DOI: 10.1016/j.bmc.2023.117512
4. Mironenko, A., & Eliseeva, T. (2020). Magnesium (Mg, Magnesium) - description, effect on the body, best sources. Journal of Healthy Eating and Dietetics, (14), 60-71. DOI: 10.59316/.vi14.91
5. Gröber, U., Schmidt, J., & Kisters, K. (2015). Magnesium in prevention and therapy. Nutrients, 7(9), 8199-8226. DOI: 10.3390/nu7095388
6. Guerrero, M. P., Volpe, S. L., & Mao, J. J. (2009). Therapeutic uses of magnesium. American family physician, 80(2), 157-162. PMID: 19621856
7. Tkacheva, N., & Eliseeva, T. (2021). Food for collagen production. Journal of Healthy Eating and Dietetics, 3(17), 70-75. DOI: 10.59316/.vi17.127
8. Padayatty, S. J., & Levine, M. (2016). Vitamin C: the known and the unknown and Goldilocks. Oral diseases, 22(6), 463-493. DOI: 10.1111/odi.12446
9. Wohlrab, J., & Kreft, D. (2014). Niacinamide-mechanisms of action and its topical use in dermatology. Skin pharmacology and physiology, 27(6), 311-315. DOI: 10.1159/000359974
10. O'Brart, D. P. (2016). Riboflavin for corneal cross-linking. Drugs of Today (Barcelona, Spain: 1998), 52(6), 331-346. DOI: 10.1358/dot.2016.52.6.2494140
11. Suwannasom, N., Kao, I., Pruß, A., Georgieva, R., & Bäumler, H. (2020). Riboflavin: the health benefits of a forgotten natural vitamin. International Journal of Molecular Sciences, 21(3), 950. DOI: 10.3390/ijms21030950
12. Zhang, M., Chen, H., Zhang, W., Liu, Y., Ding, L., Gong, J., ... & Zhang, Y. (2023). Biomimetic remodeling of microglial riboflavin metabolism ameliorates cognitive impairment by modulating neuroinflammation. Advanced Science, 2300180. DOI: 10.1002/advs.202300180
13. Nistor, OV, Milea, Ș. A., Păcularu-Burada, B., Andronoiu, D. G., Răpeanu, G., & Stănciuc, N. (2023). Technologically Driven Approaches for the Integrative Use of Wild Blackthorn (Prunus spinosa L.) Fruits in Foods and Nutraceuticals. Antioxidants, 12(8), 1637. DOI: 10.3390/antiox12081637
14. Tiboni, M., Coppari, S., Casettari, L., Guescini, M., Colomba, M., Fraternali, D., ... & Albertini, M. C. (2020). Prunus spinosa extract loaded in biomimetic nanoparticles evokes in

- vitro anti-inflammatory and wound healing activities. *Nanomaterials*, 11(1), 36. DOI: 10.3390/nano11010036
15. Magiera, A., Czerwińska, M. E., Owczarek, A., Marchelak, A., Granica, S., & Olszewska, M. A. (2022). Polyphenol-enriched extracts of *Prunus spinosa* fruits: Anti-inflammatory and antioxidant effects in human immune cells ex vivo in relation to phytochemical profile. *Molecules*, 27(5), 1691. DOI: 10.3390/molecules27051691
 16. Karakas, N., Okur, M.E., Ozturk, I., Ayla, S., Karadag, A.E., & Polat, D. Ç. (2019). Antioxidant activity of blackthorn (*Prunus spinosa* L.) fruit extract and cytotoxic effects on various cancer cell lines. *Medeniyet Medical Journal*, 34(3), 297. DOI: 10.5222/MMJ.2019.87864
 17. Marcetic, M., Samardžic, S., Ilic, T., Božic, D. D., & Vidovic, B. (2022). Phenolic Composition, Antioxidant, Anti-Enzymatic, Antimicrobial and Prebiotic Properties of *Prunus spinosa* L. Fruits. *Foods*, 11, 3289. DOI: 10.3390/foods11203289
 18. Coppari, S., Colomba, M., Fraternali, D., Brinkmann, V., Romeo, M., Rocchi, M. B. L., ... & Albertini, M. C. (2021). Antioxidant and anti-inflammaging ability of prune (*Prunus Spinosa* L.) extract result in improved wound healing efficacy. *Antioxidants*, 10(3), 374. DOI: 10.3390/antiox10030374
 19. Lazareva, V., & Eliseeva, T. (2021). Diabetes - signs and symptoms, useful and dangerous foods, folk remedies. *Journal of Healthy Eating and Dietetics*, (16). DOI: 10.59316/j.edpl.2021.16.24
 20. Pozzo, L., Russo, R., Frassinetti, S., Vizzarri, F., Árvay, J., Vornoli, A., ... & Longo, V. (2019). Wild Italian *Prunus spinosa* L. fruit exerts in vitro antimicrobial activity and protects against in vitro and in vivo oxidative stress. *Foods*, 9(1), 5. DOI: 10.3390/foods9010005
 21. Capek, P., & Košťálová, Z. (2022). Isolation, chemical characterization and antioxidant activity of *Prunus spinosa* L. fruit phenolic polysaccharide-proteins. *Carbohydrate Research*, 515, 108547. DOI: 10.1016/j.carres.2022.108547
 22. Eliseeva, T. (2022). Lemon juice is a unique drink for restoring and supporting the body. *Journal of Healthy Eating and Dietetics*, (22), 17-22. DOI: 10.59316/.vi22.207
 23. Heyman, M. B., Abrams, S. A., Heitlinger, L. A., Cabana, M. D., Gilger, M. A., Gugig, R., ... & Schwarzenberg, S. J. (2017). Fruit juice in infants, children, and adolescents: current recommendations. *Pediatrics*, 139(6). DOI: 10.1542/peds.2017-0967
 24. Eliseeva, T., & Shelestun, A. (2023). Pineapple juice is a healing drink for health and longevity. *Journal of Healthy Eating and Dietetics*, 1(23), 12-17. DOI: 10.59316/.vi23.219
 25. Shelestun, A., & Eliseeva, T. (2023). Raspberry juice: benefits, features of consumption and preparation of a delicious drink. *Journal of Healthy Eating and Dietetics*, 3(25), 8-14. DOI: 10.59316/j.edaplust.2023.25.2
 26. Eliseeva, T., & Tkacheva, N. (2023). Strawberry juice—scientifically proven beneficial properties and contraindications. *Journal of Healthy Eating and Dietetics*, 2(24), 41-46. DOI: 10.59316/j.edaplust.2023.24.7

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