



Chokeberry juice: 10 good reasons to add it to your diet

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Abstract. A frequent resident of domestic gardens, chokeberry, which is sometimes mistakenly called chokeberry, is actually an interspecific hybrid of the above-mentioned plant. The famous breeder Ivan Michurin almost 100 years ago, back in 1935, “cultivated” the American chokeberry - he crossed it with mountain ash and developed a new species, the same chokeberry, or chokeberry, also called Michurin’s chokeberry. The plant differs from its overseas ancestors in its more impressive size, as well as larger and tastier berries. The fruits of chokeberry are widely used in modern cooking, and they are also often used in pharmaceuticals.

Particularly popular among admirers of healthy lifestyle and traditional medicine is the delicious fresh juice pressed from the ripe berries of the plant. Today you can find chokeberry juice on wide sale, for example, in specialized stores or supermarket departments, but, according to experts, the most useful drink is still considered to be a self-prepared drink.

Keywords: chokeberry, chokeberry, chokeberry juice, beneficial properties, contraindications, composition, calorie content

Composition and calorie content

Chokeberry berries belong to the category of low-calorie products (100 grams of pulp contains 55 kcal). They also contain virtually no fats and proteins (0.2 and 1.5%, respectively) and quite a few carbohydrates - 10.9%. With such introductory notes, chokeberry juice is an ideal drink even for fans of a healthy lifestyle and people who strictly monitor their weight and figure. But these are not all the advantages of fresh juice. Thanks to the rich composition of various nutrients, it is able to saturate the body in a very short time with all the useful substances necessary for full-fledged work and thereby

prevent the occurrence and development of many dangerous diseases. In particular, chokeberry juice contains the following vitamins and microelements:

- Vitamin C, or ascorbic acid. It is a powerful antioxidant, promotes the body's production of its own collagen ^[1], and is recommended by experts for the prevention of scurvy, coronary heart disease, cataracts, cancer ^[2], as well as periodontal diseases: gingivitis, periodontitis, periodontal disease. ^[3]
- Vitamin P, or rutin. Strengthens blood vessels and capillaries, helps prevent nosebleeds and other bleeding, improves blood circulation, has anti-inflammatory and anti-cancer activity ^[4], has a positive effect on the female reproductive system - promotes the development of ovarian follicles and ovulation, suppresses the development of ovarian cancer cells. ^[5]
- Iodine. A vital microelement normalizes the production of thyroid hormones and stabilizes its function - prevents the development of iodine deficiency diseases such as goiter, hearing loss, hypothyroidism, cretinism ^[6], neurological disorders, obesity, problems of the cardiovascular, skeletal and digestive systems, etc. ^[7]
- Iron. The trace element is part of hemoglobin and helps transport oxygen through the tissues of the body - consuming foods rich in iron prevents the development of iron deficiency anemia ^[8], prevents the development of cognitive disorders, Alzheimer's disease, dementia, helps get rid of insomnia, helps improve physical performance and reduce symptomatic fatigue. ^[9]

In addition, chokeberry berries contain a natural low-calorie sugar substitute, which is part of starchy fruits and berries - sorbitol. Unlike regular sugar, it does not provoke osmotic diarrhea and an increase in blood glucose levels. ^[10] Therefore, even people suffering from digestive system disorders and diabetes can drink delicious chokeberry juice without risk to health. ^[eleven]

Top 10 beneficial properties of chokeberry juice

1. Effective in preventing cancer

Research shows that chokeberry fruit contains 40 times more antioxidants than tomatoes, famous for their powerful anti-cancer properties, or even acai berries. ^[12] In particular, scientists came to the conclusion that a 50 ml serving of freshly squeezed chokeberry juice already 24 hours after consumption reduces the growth rate of intestinal tumor cells by more than 50%!

2. Improves the condition of the cardiovascular system

During a 16-day medical experiment, scientists found that daily consumption of 330 ml of freshly squeezed black rowan juice has a positive effect on the well-being of patients. Such a useful dietary supplement helps lower blood pressure and reduce mild inflammatory processes in the body ^[13], which, in turn, reduces the risks of developing cardiovascular diseases (such as hypertension, hyperlipidemia, hypercholesterolemia, etc. ^[14])

3. Has a good antidiabetic effect

Chokeberry fruits are rich in potent biologically active compounds and have one of the most powerful antioxidant compositions. ^[15] Numerous scientific experiments confirm that Michurin chokeberry juice is very effective in combating oxidative stress caused by hyperglycemia and shows good results in the treatment of type 2 diabetes. ^[16]

4. Has an anticolytic effect

The introduction of chokeberry juice rich in polyphenols into the diet of patients has a positive effect on the condition of their intestines - its microbiota is restored ^[17], existing toxins are neutralized, the inflammatory process is eliminated, and the risk of developing colitis is reduced. ^[18]

5. Improves men's health

Experiments confirm that long-term use of chokeberry juice (more than 90 days) significantly improves sperm quality in patients over 40 years old - the level of sperm DNA fragmentation decreases and their activity increases, which increases the likelihood of pregnancy naturally. ^[19]

6. Helps lower cholesterol

In the course of scientific research, scientists were able to find out that daily intake of chokeberry juice for 6-8 weeks helps to significantly reduce cholesterol levels in the blood, even without the use of special pharmaceutical drugs. ^[20]

7. Improves liver function

Aronia Michurin juice has powerful hepatoprotective properties - it provides a choleretic effect, and also helps cleanse the liver of waste and toxins, improving its functioning in general. ^[21]

8. Helps normalize metabolism

Rich in polyphenols, in particular phenolic acids, chokeberry juice has strong antioxidant activity - it provides good prevention of various chronic diseases, including metabolic disorders ^[22], and even helps to lose weight, while improving lean body mass. ^[23]

9. Improves skin condition

The juice obtained from chokeberry fruits is also beneficial for the skin. Masks made from this product, rich in vitamin C and other useful microelements, promote accelerated synthesis of collagen in tissues and are recommended by specialists for the safe and effective treatment of aging and damaged dermis. ^[24]

10. Good for runners

Long-distance running can be dangerous for recreational runners—increased cardio exertion increases the risk of cardiac arrest by increasing platelet activation. Experiments show that drinking chokeberry juice daily alleviates increased platelet aggressiveness and significantly reduces the risk of heart problems during increased physical activity. ^[25]

Contraindications and features of drinking chokeberry juice

Despite its many beneficial properties, chokeberry juice has a number of contraindications. In particular, it is not recommended to include it in the diet of hypotensive people, people suffering from low blood pressure, as well as patients with peptic ulcers ^[26] of the digestive system.

It is recommended to drink fresh chokeberry through a straw to prevent direct contact of the sweet and sour liquid with tooth enamel and prevent its destruction and subsequent formation of caries. ^[27]

Recommendations for preparing and storing chokeberry juice

Making chokeberry juice at home is quite simple. It is necessary to carefully sort through the berries, separating the ripe whole fruits from litter and illiquid waste, carefully wash and dry them, and then squeeze out the healing drink from them. For squeezing, you can use a juicer (preferably an auger) or a juicer. In the latter case, the resulting fresh juice does not have to be further pasteurized before preservation. The prepared juice can be immediately poured into sterilized jars and bottles and rolled up, then sent for long-term storage in a dry, dark place.

If the amount of processed product is not too large, then you can store it in the refrigerator (for 1-2 days) or freeze it, pouring it into zip bags or special containers.

Expert commentary

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Chokeberry juice is not only a delicious dessert, but also a very healthy drink. With its help, you can quickly saturate the body with many of the vitamins and microelements it needs, as well as get rid of many diseases or prevent their development. In particular, such fresh juice will help reduce cholesterol levels in the blood, improve metabolism and lose weight, improve the liver and even protect against cancer. Add chokeberry juice to your family's diet and see its benefits and effectiveness from your own experience!

Literature

1. Tkacheva, N., & Eliseeva, T. (2021). Foods for collagen production. *Journal of healthy nutrition and dietetics*, 3(17), 70-75. DOI: 10.59316/.vi17.127
2. Weber, P., Bendich, A., & Schalch, W. (1996). Vitamin C and human health--a review of recent data relevant to human requirements. *International journal for vitamin and nutrition research. Internationale Zeitschrift für Vitamin-und Ernährungsforschung. Journal international de vitaminologie et de nutrition*, 66(1), 19-30. PMID: 8698541
3. Alagl, A. S., & Bhat, S. G. (2015). Ascorbic acid: New role of an age-old micronutrient in the management of periodontal disease in older adults. *Geriatrics & gerontology international*, 15(3), 241-254. DOI: 10.1111/ggi.12408.
4. Pandey, P., Khan, F., Qari, H. A., & Oves, M. (2021). Rutin (Bioflavonoid) as cell signaling pathway modulator: Prospects in treatment and chemoprevention. *Pharmaceuticals*, 14(11), 1069. DOI: 10.3390/ph14111069
5. Sirotkin, A. V. (2024). Positive effects of routine on female reproduction. *Reproduction in Domestic Animals*, 59(2), e14540. DOI: 10.1111/rda.14540
6. Ali, O. (1995). Iodine deficiency disorders: a public health challenge in developing countries. *Nutrition (Burbank, Los Angeles County, Calif.)*, 11(5 Suppl), 517-520. PMID: 8748212
7. Delange, F., & Bürgi, H. (1989). Iodine deficiency disorders in Europe. *Bulletin of the World Health Organization*, 67(3), 317. PMID: 2670299
8. Eliseeva, T. (2021). Iron (Fe) for the body-30 best sources and importance for health. *Journal of healthy nutrition and dietetics*, 4(18), 66-75. DOI: 10.59316/.vi18.148.

9. Low, M. S. Y., Speedy, J., Styles, C. E., De-Regil, L. M., & Pasricha, S. R. (2016). Daily iron supplementation for improving anemia, iron status and health in menstruating women. *Cochrane Database of Systematic Reviews*, (4). DOI: 10.1002/14651858.CD009747.pub2.
10. VAALER, S., BJØRNEKLETT, A., JELLING, I., SKREDE, G., HANSEN, K.F., FAUSA, O., & AAGENJES, Ø. YSTEIN (1987). Sorbitol as a Sweetener in the Diet of Insulin-dependent Diabetes. *Acta Medica Scandinavica*, 221(2), 165-170. DOI: 10.1111/j.0954- 6820.1987.tb 01262.x
11. Brunzell, J. D. (1978). Use of fructose, xylitol, or sorbitol as a sweetener in diabetes mellitus. *Diabetes care*, 1(4), 223-230. DOI: 10.2337/diacare.1.4.223
12. Green, B. V., Aroh, B., Fiorellino, N. M., Ristvey, A. G., & Volkis, V. V. (2023). Effect of Cultural Management and Plant Age on the Yield, ° Brix, and Antioxidant Content of *Aronia mitschurinii* Grown in Maryland. *ACS omega*, 8(4), 4060-4071. DOI: 10.1021/acsomega.2c06988
13. Loo, B. M., Erlund, I., Koli, R., Puukka, P., Hellström, J., Wähälä, K., ... & Jula, A. (2016). Consumption of chokeberry (*Aronia mitschurinii*) products modestly lowered blood pressure and reduced low-grade inflammation in patients with mildly elevated blood pressure. *Nutrition Research*, 36(11), 1222-1230. DOI: 10.1016/j.nutres.2016.09.005
14. Kasprzak-Drozd, K., Oniszczyk, T., Soja, J., Gancarz, M., Wojtunik-Kulesza, K., Markut-Miotła, E., & Oniszczyk, A. (2021). The efficacy of black chokeberry fruits against cardiovascular diseases. *International journal of molecular sciences*, 22(12), 6541. DOI: 10.3390/ijms22126541
15. Green, B. V., Ford, T. W., Goldsborough, H., Abdelmotalab, M., Ristvey, A. G., Sauder, D. G., & Volkis, V. V. (2022). Extraction of antioxidants from *Aronia mitschurinii* juice using macroporous resins. *ACS omega*, 7(34), 29877-29885. DOI: 10.1021/acsomega.2c02785
16. Banjari, I., Misir, A., Šavikin, K., Jokić, S., Molnar, M., De Zoysa, H. K. S., & Waisundara, V. Y. (2017). Antidiabetic effects of *Aronia melanocarpa* and its other therapeutic properties. *Frontiers in Nutrition*, 4, 53. DOI: 10.3389/fnut.2017.00053
17. Liu, X., Martin, D. A., Valdez, J. C., Sudakaran, S., Rey, F., & Bolling, B. W. (2021). *Aronia* berry polyphenols have matrix-dependent effects on the gut microbiota. *Food Chemistry*, 359, 129831. DOI: 10.1016/j.foodchem.2021.129831
18. Pei, R., Martin, D. A., Valdez, J. C., Liu, J., Kerby, R. L., Rey, F. E., ... & Bolling, B. W. (2019). Dietary prevention of colitis by *aronia* berry is mediated through increased Th17 and Treg. *Molecular nutrition & food research*, 63(5), 1800985. DOI: 10.1002/mnfr.201800985
19. Sangild, J., Faldborg, A., Schousboe, C., Fedder, M. D. K., Christensen, L. P., Lausdahl, A. K., ... & Fedder, J. (2023). Effects of chokeberries (*Aronia* spp.) on cytoprotective and cardiometabolic markers and semen quality in 109 mildly hypercholesterolemic Danish men: a prospective, double-blinded, randomized, crossover trial. *Journal of Clinical Medicine*, 12(1), 373. DOI: 10.3390/jcm12010373
20. Tkacheva, N., & Eliseeva, T. (2020). Foods to reduce cholesterol levels. *Journal of healthy eating and dietetics*, (11). DOI: 10.59316/j.edpl.2020.11.15
21. Kokotkiewicz, A., Jaremicz, Z., & Luczkiewicz, M. (2010). *Aronia* plants: a review of traditional use, biological activities, and perspectives for modern medicine. *Journal of medicinal food*, 13(2), 255-269. DOI: 10.1089/jmf.2009.0062
22. Jurikova, T., Mlcek, J., Skrovankova, S., Sumczynski, D., Sochor, J., Hlavacova, I., ... & Orsavova, J. (2017). Fruits of black chokeberry *Aronia melanocarpa* in the prevention of chronic diseases. *Molecules*, 22(6), 944. DOI: 10.3390/molecules22060944
23. Yun, C. E., So, H. K., Vuong, T. A., Na, M. W., Anh, S., Lee, H. K., ... & Lee, S. J. (2021). *Aronia* upregulates myogenic differentiation and augments muscle mass and function through muscle metabolism. *Frontiers in Nutrition*, 8, 753643. DOI: 10.3389/fnut.2021.753643

24. Lee, H. R., Ryu, H. G., Lee, Y., Park, J. A., Kim, S., Lee, C. E., ... & Lee, K. H. (2022). Effect of Aronia extract on collagen synthesis in human skin cell and dermal equivalent. *Oxidative Medicine and Cellular Longevity*, 2022. DOI: 10.1155/2022/4392256
25. Stevanović, V., Pantović, A., Krga, I., Zeković, M., Šarac, I., Glibetić, M., & Vidović, N. (2020). Aronia juice consumption prior to half-marathon race can acutely affect platelet activation in recreational runners. *Applied Physiology, Nutrition, and Metabolism*, 45(4), 393-400. DOI: 10.1139/apnm-2019-0267.
26. Lazareva, V., & Eliseeva, T. (2022). Ulcer - signs and symptoms, useful and dangerous products, folk remedies. *Journal of healthy nutrition and dietetics*, (20). DOI: 10.59316/j.edpl.2022.20.25
27. Lazareva, V., & Eliseeva, T. (2021). Caries - signs and symptoms, useful and dangerous products, folk remedies. *Journal of healthy nutrition and dietetics*, (16). DOI: 10.59316/j.edpl.2021.16.4480.

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Among the admirers of health and folk medicine, a tasty juice squeezed from the ripe berries of the plant is especially popular. Today you can find blackcurrant rowan juice in wide sale, for example, in specialized stores or supermarket departments, but the most useful, according to experts, is still considered a self-made drink.