

– диетологи пришли к выводу, что человек может эффективно похудеть за счет избавления от лишнего веса при условии частичной замены потребляемых жиров животного происхождения на легкоусвояемое пищевое льняное масло;

– незаменимый компонент питания для вегетарианцев, отказавшихся от потребления рыбы [4, 5].

Всего 1 – 2 столовых ложки льняного масла в день обеспечивают суточную потребность в этих необходимых для здоровья компонентах пищи [6].

Жмых, остающийся после отжима масла, не только прекрасный корм для домашнего скота и птицы, но и ценная биологически-активная добавка к пище. В льняном жмыхе содержится множество ценных для организма человека компонентов, и в первую очередь льняная клетчатка, обладающая удивительными свойствами очищать наш организм от всякой «грязи».

ЛИТЕРАТУРА

1. *Canga A., Costiș V.* Prioritățile uleiului de in. Materiale conferinței UTM 2012, 2p.
2. *Cousens G.* Omega 3 Conscious Eating, p. 458 – 461.
3. <http://drcalinmarginean.blogspot.com/2011/06/uieiurile-vegetale.html>
4. http://stgetman.narod.ru/len_oil.html
5. http://www.gabris.ru/gabris/health/flax/oil/index.pricelhigh.test.php?utm_expid=15300203-0
6. *Маржунеев К.* Растительные масла. <http://drcalinmarginean.blogspot.com/2011/06/uieiurile-vegetale.html>
7. *Химический состав масличных семян.* <http://www.znaytovar.ru/s/Ximicheskij-sostav-maslichnyx-se.html>

23. THE STUDY OF BIOLOGICAL AND NUTRITIONAL POTENTIAL OF WALNUT OIL

Oxana Radu, Adelina Fuior, Tatiana Capcanari

*Faculty of Technology and Management in Food Industry,
Technical University of Moldova*

Walnut oil comes from the dried and pressed nuts of walnut trees, or *Juglans regia* [1]. It is produced in cold pressing and filtered to remove small particles. Even though the output of oil by cold pressing is smaller, it allows preserving the natural structure of walnut oil and its organic characteristics [2].

The health benefits of walnuts are usually attributed to their chemical composition [3]. 1 tbsp. of walnut oil (15 ml) has 164 calories, 3.4 g of carbs, 3.8 g of protein and 16 g of fat. Walnuts contain a variety of minerals, including zinc, selenium, magnesium, copper, potassium and phosphorous. Walnut oil also contains healthy amounts of vitamins C and E, both of which have antioxidant properties and vitamins B1, B2 and B3 [1].

Walnuts are a good source of essential fatty acids. It is high in omega-3 fatty acids (alpha linolenic acid), which can reduce inflammation and lower the risk of developing heart disease, cancer (breast, colon and prostate) and arthritis. Omega-3 fatty acids help to reduce low-density lipoprotein, or bad cholesterol, and increase high-density lipoprotein, or good cholesterol. The omega-3 fatty acids in walnut oil may also reduce the amount of triglycerides in the bloodstream, which contribute to high total cholesterol levels [2]. The anti-inflammatory effects of walnut oil can alleviate the symptoms of certain skin conditions, including sunburn, itchy scalp, skin ulcers, dandruff and blisters [4].

Walnut oil contains healthy monounsaturated fats. These beneficial fats protect the heart and cardiovascular system by lowering cholesterol and reducing inflammation. Monounsaturated fats also improve the way the body responds to insulin and controls blood sugar [3].

Besides being packed with unsaturated fats, walnut oil also contains plant sterols, called phytosterols. Plant sterols help reduce the absorption of cholesterol into the body and can also lower the blood LDL cholesterol. Phytosterols may also help reduce the risk for some cancers.

Walnut oil contains phytonutrients, particularly selenium, phosphorous, magnesium, zinc, iron, and calcium. Phytonutrients are not essential to life, but may help improve the body's various functions. Phytonutrients may aid in disease prevention, particularly diabetes, cancer, heart disease and hypertension. They can also act as precursors and catalysts to hormones in the body that regulate metabolism, nervous-system, digestive and brain function and energy production [2].

Walnuts possess a high content of α -tocopherol, a vitamin E family compound, which has antioxidant activity, mainly in the prevention of lipid oxidation process. So, walnut oil is rich in anti-oxidants, and walnuts are considered one of the best nut sources of natural anti-oxidants. Anti-oxidants neutralize the effects of free radicals and other toxins that may cause cellular damage and hinder the functioning of your organs. Walnut oil contains ellagic acid, gallic acid and malic acid, all of which have powerful anti-oxidant properties, as well as anti-bacterial, anti-inflammatory, anti-viral and anti-septic properties [1].

Walnut oil has gained popularity in later days for its outstanding nutritional qualities. It is considered one of the healthy fats. Walnut oil is suitable for sauteing, deep frying, pan frying, grilling and broiling; it's often used to replace butter and margarine for these purposes. In addition, the nutty flavor makes walnut oil a great addition for salad dressings. Replacing some of the unhealthy fats with walnut oil can benefit your health.

Thus, walnut oil can help reduce the risk of cardiovascular disease; it's an excellent replacement for butter, margarine or coconut oil that are high in the unhealthy fats. Walnut oil is mostly used as an ingredient in cold dishes such as such as salads or in dips, or drizzle the oil on foods after cooking because of its sweet, nutty flavor and because walnut oil usually tastes bitter once exposed to hot temperatures [2].

Nuts contain a diverse array of compounds that enhance the nutritional value of the human diet. Knowledge of these components is important to elucidate the protective mechanisms. Regarding the antioxidant potential, nuts are an excellent source of tocopherols and polyphenols that play an important role in the prevention of cancer, inflammatory activities and cardiovascular disease [4].

REFERENCES

1. Alasalvar, C., Shahidi, F., Ohshima, T., Wanasundara, U., Yurttas, H.C., Liyanapathirana, C.M., et al. (2003b). Turkish tombul hazelnut (*Corylus avellana* L.).
2. Lipid characteristics and oxidative stability. *Journal of Agricultural and Food Chemistry*, 51(13), 3797 – 3805.
3. Kris-Etherton, P. M., Zhao, G., Binkoski, A. E., Coval, S. M., & Etherton, T.D. (2001). The effects of nuts on coronary heart disease risk. *Nutrition Reviews*, 59(4), 103 – 111.
3. Rajaram, S., Burke, K., Connell, B., Myint, T., & Sabate, J. (2001). A monounsaturated fatty acid-rich pecan-enriched diet favorably alters the serum lipid profile of healthy men and women. *Journal of Nutrition*, 131 (9), 2275 – 2279.
4. Talcott, S.T., Passeretti, S., Duncan, C.E., & Gorbet, D.W. (2005). Polyphenolic content and sensory properties of normal and high oleic acid peanuts. *Food Chemistry*, 90, 379 – 388.