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BARLEY AS A SOURCE OF ABLE-BODIED LIFE OF CONTEMPORARY PERSON

Comparative characteristics are given of nutritive properties of «the forgotten basic bread of many nations of the world — barley» and today's daily bread — wheat. Advantage of barley in comparison with wheat does not call any doubt as food stuff. It prevents cardiovascular and cancer diseases and can be used as preventive- and medical means against sugar diabetes, allergic and many other diseases. Special attention is given to grades of naked barley which has even greater nutritive and medical properties. Characteristics of new grades of naked barley of PBGI selection are given.

Key words: barley, wheat, grade, quality, nutrition, health.

Bibliography

1. *Newman R.* Barley for food and health. Science, technology and products/R. Newman, C. Newman. — J. Willey & Sons, Inc. Publications, Hoboken, New Jersey. — 2008. — 245 p.
2. *Effect on the human lipoprotein profile of β -glucan, soy protein and isoflavones, plant sterols, garlic and tocotrienols/D. Kerckhoffs, F. Brouns, G. Hornstra, Mensink//R.J. Nutr.* — 2002. — V. 132. — P. 2494 – 2505.
3. *Tocotrienol and fatty acid composition of barley oil and their effects on lipid metabolism/L. Wang, Q. Xue, R. Newman, C. Newman et al.//Plant Foods Hum. Nutr.* — 1993. — V. 43. — P. 9 – 17.
4. *A new approach for the utilization of barley in food products: barley tarhana/H. Erkan, S. Çelik, B. Bilgi, H. Köksel//Food Chem.* — 2006 — V. 97. — P. 12 – 18.
5. *Weaning food with improved energy and nutrient density prepared from germinated cereals: 2. Nutritional evaluation of gruels based on barley/B. Pedersen, M. Hansen, L. Munck, B. Eggum//Food Nutr. Bull.* — 1989. — V. 11(2). — P. 46 – 52.
6. *Weaning food with improved energy and nutrient density prepared from germinated cereals: I. Preparation and dietary bulk of gruels based on barley/M. Hansen, B. Pedersen, L. Munck, B. Eggum//Food Nutr. Bull.* — 1989. — V. 11(2). — P. 40 – 45.
7. *Antioxidant effect of roasted barley (*Hordeum vulgare* L.) grain extract towards oxidative stress *in vitro* and *in vivo*/M. Omwamba, Li Feng, Sun Guiju, Hu Qiuhui//Food Nutr. Sci.* — 2013. — V. 4. — P. 139 – 146.

8. Yu Y. Effect of young barley leaf extract and oxidative vitamins on LDL oxidation and free radical scavenging activities in type 2 diabetes/Y. Yu, W. Chang//Diabetes Metab. — 2002. — P. 107 – 114.
9. *Wigmore Ann. The wheatgrass book*/Ann Wigmore//Avery Penguin Putnam Inc., USA. — 1985. — 123 p.
10. *Degradation of organophosphorus pesticides in aqueous extracts of young green barley leaves (Hordeum vulgare L.)*/J. Durham, J. Ogata, S. Nakajima et al.//T.J. Sci. Food Agric. — 1999. — V. 79. — P. 1311 – 1314.
11. *Some nutritional properties of starch and dietary fiber in barley genotypes containing different levels of amylose*/I. Björck, A.-C. Eliasson, A. Drews et al.//Cereal Chem. — 1990. — V. 67. — P. 327 – 334.
12. *Рибалка О.І. Ячмінь як продукт функціонального харчування*/О.І. Рибалка, Б.В. Моргун, С.С. Поліщук. — К.: Логос, 2016. — 619 с.
13. *Davis W. Wheat belly: lose the wheat, lose the weight, and find your path back to health*/W. Davis. — Emmaus, Pa: Rodale Press. — 2011.
14. *LC/MS analysis of proteolytic peptides in wheat extracts for determining the content of the allergen amylase/trypsin inhibitor CM3: influence of growing area and variety*/B. Prandi, A. Faccini, T. Tedeschi et al.//Food Chem. — 2013. — V. 140. — P. 141 – 146.
15. *Marconi E. Composition and utilization of barley pearling by-product for making functional pastas rich in dietary fiber and β -glucans*/E. Marconi, M. Graziano, R. Cubadda//Cereal Chem. — 2000. — V. 77. — P. 133 – 139.
16. *Bunzel M. Phenolic compounds as cross-links of plant derived polysaccharide*/M. Bunzel, J. Ralph, H. Steinhart//Czech. J. Food Sci. — 2004. — V. 22. — P. 64 – 67.
17. *Mazza G. Blue and purple grains*/G. Mazza, L. Gao//Specialty Grains for Food and Feed. E. — Abdel-Aal and P. Woods, eds. Am. Assoc. Cereal Chem., St. Paul., MN. — 2005. — P. 313 – 350.
18. *Köksel H. Barley bulgur: effect of processing and cooking on chemical composition*/H. Köksel, M. Edney, B. Ozkaya//J. Cereal Sci. — 1999. — V. 29. — P. 165 – 190.
19. *Beta-glucan content and viscosity of extracts from barley*/S. Ullrich, I. Clancy, R. Eslick, R. Lance//J. Cereal Sci. — 1986. — V. 4. — P. 279 – 285.
20. *Barley sex6 mutants lack starch synthase IIa activity and contain a starch with novel properties*/M. Morell, B. Kosar-Hashemi, M. Cmiel, M. Samuelet al.//Plant J. — 2003. — V. 34. — P. 173 – 185.
21. *Aman P. Chemical composition of some different types of barley grown in Montana, USA*/P. Aman, Newman//C. J. Cereal Sci. — 1986. — V. 4. — P. 133 – 141.
22. *Szczodrak J. Starch and enzyme-resistant starch from high-amylose barley*/J. Szczodrak, Y. Pomeranz//Cereal Chem. — 1991. — V. 68. — P. 589 – 596.
23. *Resistant starch and health — Himalaya 292, a novel barley cultivar to deliver benefits to consumers*/D. Topping, M. Morell, R. King et al.//Starch. — 2003. — 55. — P. 539 – 545.
24. *Gastrointestinal implications in pigs of wheat and oat fractions. 2. Microbial activity in the gastrointestinal tract*/K. Bach-Knudsen, B. Jensen, J. Andersen, I. Hansen//Br. J. Nutr. — 1991. — V. 65. — P. 233 – 248.

25. Wholegrain foods made from a novel highamylose barley variety (Himalaya 292) improve indices of bowel health in human subjects/A. Bird, M. Vuaran, R. King et al.//Br. J. Nutr. — 2008. — V. 99. — P. 1032 – 1040.
26. Bhatta R.S. The potential of hull-less barley/R.S. Bhatta//Cereal Chem. 1999. — V. 76. — P. 589 – 599.
27. Hu F.B. Globalization of diabetes the role of diet, lifestyle, and genes/F.B. Hu//Diabetes Care. — 2011. — V. 34. — P. 1249 – 1257.
28. Global prevalence of diabetes estimates for the year 2000 and projections for 2030/S. Wild, G. Roglic, A. Green et al.//Diabetes Care. — 2004. — V. 27. — P. 1047 – 1053.
29. The importance of type 2 diabetes prevention: The Norfolk Diabetes Prevention Study/N. Murray, S. Abadi, A. Blair et al.//Br. J. Diab. Vasc. Dis. — 2011. — V. 11. — P. 308 – 313.
30. Baik B. Barley for food: characteristics, improvement, and renewed interest/B. Baik, S. Ullrich//J. Cereal Sci. — 2008. — V. 48. — P. 233 – 242.
31. Dickin E. Hullless barley for functional food/E. Dickin, K. Steele, D. Wright//HGCA Project Report. — 2010. — 472 p.
32. Influence of the hullless, waxy starch, and shortawn genes on the composition of barleys/Q. Xue, I. Wang, R. Newman et al.//J. Cereal. Sci. — 1997. — V. 26. — P. 251 – 257.
33. Sunberg B. Composition and properties of bread and porridge prepared from different type of barley flour/B. Sunberg, H. Falk//Am. J. Clin. Nutr. (Suppl.). — 1994. — 780 p.
34. Theuer R. Effect of iron on the color of barley and other cereal porridges/R. Theuer//J. Food Sci. — 2002. — V. 67. — P. 1208 – 1211.
35. Wallace I.H. The Rumford complete cookbook/I.H. Wallace. — Rumford Co., Rumford, Rhode, Island. — 1930. — P. 222.
36. Pazola Z. Changes in carbohydrates during the production of coffee substitute extract, especially in the roasting process/Z. Pazola, J. Cielak//Food Chem. — 1979. — V. 4. — P. 41 – 52.
37. Tocotrienol and fatty acid composition of barley oil and their effect on lipid metabolism/L. Wang, Q. Xue, R. Newman et al.//Plan Foods Hum. Nutr. — 1993. — V. 43. — P. 9 – 17.