

8. Amaranth as a valuable raw material for culinary products

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Introduction. Amaranthus is a significant nutritional crop whose edible starchy seeds are eaten as cereals. It classified as pseudocereals, but it is used as cereals in the baked goods, pasta, noodles, pancake, biscuits, cookies, snacks and other culinary products. Nowadays, it is also called a thirdmillennium crop plant, because of important nutritional and prophylactic properties. It can be a cheap alternative grain crop rich in proteins and nutrients for developing countries.

Materials and methods. Investigated samples are amaranth grains of different trademarks. Nutrition facts and health benefits were viewed theoretically for amaranth. Calculation method was used to determine the % Daily value.

Results. Amaranthus is used as a suitable plant raw material that may provide high quality proteins, dietary fibres, unsaturated fatty acids as omega-3 and omega-6, and other biological valuable components. This pseudo cereal is rich in high-quality protein when compared to true cereals, especially the essential amino acid lysine. Total digestibility of cooked grain is about 90 %.

Starch is the main component of amaranth grain, but also high content of dietary fibre, low in lipids, simple sugars, and gluten-free. The fatty acids of amaranth oil are presented by 70 % of oleic and linoleic acids, about 20 % of stearic acid, and traces of linolenic acid. This pseudocereal is in high content of such micronutrients as Pantothenic acid, Riboflavin, vitamin B₆, vitamin C, Iron, Magnesium, Manganese, Phosphorus, Zinc.

We analysed nutrient composition of amaranth grain of such trademarks as: PeruvianONE Superfoods, Zdorovo and Ekorod. Recommended daily intake of nutrients and energy was taken for calculation: protein – 61 g, lipids – 62 g, carbohydrates – 300 g, dietary fibre – 25 g, sugars – 50 g, energy value – 2 000 kcal.

Table 1 – Comparative analysis of amaranth grain of different trademarks

Nutrition facts	Sample					
	TM PeruvianONE Superfoods		TM Zdorovo		TM Ekorod	
	Content	%Daily	Content	%Daily	Content	%Daily
Protein, g	12,8	21	13,56	22,2	13,6	22,3
Total Carbohydrates, g	69,1	23	68,55	22,9	65,3	21,8
Dietary Fibre, g	9,3	37,2	6,7	26,8	6,7	26,8
Total Sugars, g	2,0	4	-	-	1,7	3,4
Total Fat, g	6,6	10,6	7,02	11,3	7,0	11,3
Energy value, kcal	343	17,2	371	18,6	371	18,6

The possible health benefits include reducing cholesterol and blood glucose levels, exerting an antitumor activity, preventing anemia, enhancing immune system, decreasing inflammation, fights diabetes. Amaranth are an excellent dietary source of antioxidants like tocopherols, polyphenols, phenolic acids, ascorbic acid, and protect against oxidative stress.

Conclusions. Amaranth is well-balanced crop grain with functional properties that assurance medicinal benefits to human health. Amaranth is considered as a “super food” with relevant and unique nutraceutical values, and it is recommended for everyday diet for kids, adolescents and adults.