



MINERAL COMPOSITION OF SELECTED EDIBLE NUT SEEDS



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Numerous epidemiological studies have confirmed that lifestyle and diet can be very effective in preventing and treating many non-communicable diseases.

Replacement of unhealthy food intake between the main meals, i.e. snacks, with foods rich in nutrients such as nuts make a significant contribution to the prevention and treatment of some types of cancer, diabetes mellitus type 2 and cardiovascular diseases.

Among the essential bioactive components contained in nuts are healthy minerals, such as calcium, magnesium, potassium, phosphorus, zinc, ferrum. The objective of this study was to identify the mineral composition of several varieties of nuts, which are part of everyday diet. The concentrations of 7 elements (Na, K, Ca, Mg, Fe, Zn, and P) were determined in nut samples (peanut, almond, hazelnut, walnut, Brazil nut, cashew, pecan, pistachio and pine nuts). The mineral contents were analyzed by inductively coupled plasma optical emission spectrometry using a Agilent 5110 dual view, ICP-OES, after microwave-assisted acid digestion.

Table 1. Mineral content of selected nut seeds in mg/kg.

	Na	K	Ca	P	Mg	Fe	Zn
Peanut	45.6	3508	647	4221	1706	35.6	34.5
Almond	8.4	3937	1995	5191	2655	107	31.6
Hazelnut	<10	3812	1388	3412	1467	46.2	23.1
Walnut	<10	3997	974	5368	1867	35.1	36.4
Brazil nut	<10	3760	1603	7244	3724	25.9	41.9
Cashew	61.7	3807	376	5261	2374	51.4	51.5
Pecan	<10	2295	532	2814	1042	25.9	37.6
Pine nut	<10	3407	84,2	4938	1936	42.2	63.0
Pistachio	800	4414	989	4590	981	26.9	21.4



The contents of investigated elements in nut samples were determined as mg/kg in the range from 21.4 to 63.0 for Zn; 25.9 to 107.0 for Fe; 84.2 to 1995 for Ca; 981 to 3724 for Mg; 2295 to 4414 for K and 2814 to 7244 for P. The minimum contents of Na were below the detection limit of the method used.

The obtained experimental data are another confirmation that nuts, and above all almond and Brazil nut, are important sources of bioactive components i.e. healthy minerals. Knowing the effect on human health, it is necessary the nuts to be recommended and included in the usual daily diet.