

ANTIOXIDANT ACTIVITY, TOTAL PHENOL AND TANNIN CONTENT OF DIFFERENT VARIETIES OF FLOURS

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Cereals are considered one of the most commonly used foods due to their properties. They are the main source of carbohydrates, mainly starch. In addition to carbohydrates, cereals also contain proteins, unsaturated fatty acids, minerals, B-group vitamins and vitamin E. This composition refers to the unprocessed form of cereals - whole grain cereals. They also contain phenolic compounds, such as phenolic acid, flavonoids, stilbene, coumarins and tannins. These are plants secondary metabolites and have a significant role in the prevention of many diseases due to their antioxidant properties.

The aim of this research was to determine the content of total polyphenols and tannins in wheat (type 500), maize, rye and whole wheat flour extracts, as well as the antioxidant activity of the samples. The highest content of total polyphenols was determined in whole wheat flour (6.38 ± 0.759 mg GAE/g), while the lowest amount was determined in wheat (type 500) flour (2.29 ± 0.32 mg GAE/g). Whole wheat flour extract showed the highest antioxidant activity ($IC_{50} = 5.63 \pm 1.331$ mg/ml), while wheat flour (type 500) extract showed the lowest antioxidant activity ($IC_{50} = 26.39 \pm 2.132$ mg/ml). Based on the results obtained, it can be concluded that whole grain cereals contain a large amount of polyphenols, which indicates a significant antioxidant activity. Due to their many properties, which have effect on improving health, cereals form the base of the pyramid of nutrition, as a model of healthy eating.

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