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The impact way of cooking on the content of bioactive ingredients in rose hip tea (*Rosa canina L*)

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The rose hip belongs to the species of roses (family Rosaceae), and it is one of the most popular plants that is used as food and in medicinal purposes. This plant is known by many names, such as wild rose, dog rose, sweet briar and etc. The berries of the rose hip are rich in contents of vitamins, such as vitamins B1, B2, B3, D, pro-vitamine A, and in a wide range of other nutrients. The rose hip is especially rich in vitamin C content. The aim of this work was to determine total phenol and flavonoid content and anti-oxidative activity of rose hip tea (in bulk and filter bags) in dependence of way of cooking (cooking, microwave treatment and cooking on the water bath (with reflux). Determination of phenol, flavonoid and anti-oxidative activity was done by cooking in water bath with reflux, and microwave treatment. The total phenols were determined with the Folin-Ciocalte reagent, an antioxidant activity with

pFRAP and gallic acid (GAE) was used as standard. For flavonoid determination, method with AICI₃ making complex, and catechin (CE) was used. For statistical analysis two factor ANOVA was conducted. The highest phenols content was found in filter bags by microwave treatment (456.45 mg GAE/100g dw). The lowest phenols content was recorded with using cook (228.27 mg GAE). For flavonoid max was found in bulk using microwave, and min was in filter bags of tea (9.91 mg CE/100g dw) by cook. The max antioxidant activity was recorded in bulk where coked and min activity in filter bags 36.99 mg GAE /100g dw with using water bath. After statistical analysis, it was concluded that an alternative hypothesis is accepted and average total phenols, flavonoids and antioxidant activity was statistically different in relation to way of cooking at level 95%.

Biography

Zilha Asimovic is working as full professor for biochemistry in agriculture and food technology, at University of Sarajevo, Faculty of Agriculture and Food Sciences, Bosnia and Herzegovina. Her PhD was in biochemistry of domestic animals (sheep), and she is master of Chemistry Sciences. She finished Faculty of Science (Chemistry department). She was a member of Commissions a few doctoral thesis and over than 20 master thesis (as mentor). She is an author of many publications and three university textbooks in field of biochemistry. Her research interests: biochemistry, metabolism of trace elements, biochemistry of food, bioactive compounds in food, phenolic compounds in food, enzymes in food, vitamin analysis in food, storage and handling of food.

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