

ABSTRACT

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Title of master's thesis: Phytochemical study of a selected plant taxon. Procyanidins of *Vaccinium macrocarpon* in food supplements.

Background: The main objective of this work was to analyze food supplements containing *Vaccinium macrocarpon*, especially to evaluate the content of substances that are considered to be effective against urinary tract infections.

Methods: Preparations were analyzed by TLC and HPLC techniques, tested for antioxidant activity by method utilizing DPPH (2,2-diphenyl-1-picrylhydrazyl) radical scavenging. Proanthocyanidins content was determined by using method based on the reaction with DMAC (4-dimethylaminocinnamaldehyde).

Results: An overview of the issue of food supplements containing *Vaccinium macrocarpon* was created. Concentrations of proanthocyanidins in samples were determined. The content in recommended daily dose of preparations ranged from 4,2 mg to 54,3 mg.

Conclusions: Proanthocyanidins from *Vaccinium macrocarpon* affect the ability of bacteria to adhere to epithelium of the urinary tract. Suitable method of their determination is method based on reaction with DMAC. Results revealed that supplements available in the Czech market widely differ in content of these active substance. Some of them could be appropriate alternative treatment option for patients with urinary tract infections.

Keywords: *Vaccinium macrocarpon*, food supplements, urinary tract infections, proanthocyanidins, DMAC (4-dimethylaminocinnamaldehyde).