

STUDIES ON OBTAINING ANTHOCYANIN PIGMENTS FROM PURPLE POTATO

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Introduction

Potato (*Solanum tuberosum* L.) is one of the principal food crops in the world and the tubers are a good source of carbohydrates (starch), proteins and vitamin C. As a product of plant origin they also contain secondary metabolites (phytochemicals) [1, 2 and 3].

Polyphenolic compounds are a large group of photochemical and depending on their chemical structure they can be divided into the following classes: flavonoids, phenolic acids, tannins, stilbenes and lignans [4]. Anthocyanins (classified as flavonoids) are responsible for the colour found in the pigmented potatoes. The aim of this study was to investigate the effect of temperature (30 – 60°C), solvent ratio (1:2 and 1:3) and solvent type (ethanol and 1% acidified ethanol) on anthocyanins extraction.

Materials and methods

The anthocyanins pigments were extracted from potato (Albastru-Violet de Galanesti variety). For anthocyanin pigments extraction was used the simple extraction in solvent in different conditions in order to find the best condition for obtaining extracts rich in this compounds. Was investigating the effect of temperature, solvent type and solvent ratio.

The total anthocyanins content (TAC) were determined by the pH differential method. This method is based on the property of anthocyanin pigments to change the colour with pH (TAC was expressed as cyanidin 3-glucoside).

Results and conclusions

The highest anthocyanin content was found at extraction temperature of 60°C with ethanol (1:3) as solvent (178.25±4.23 mg/100g FW). The lowest anthocyanin content was found at extraction temperature of 30°C with ethanol as solvent (44.41±2.95 mg/100g FW).

The results are similar with literature reports about purple potato anthocyanin content determined through pH differential method.

References

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