INFLUENCE OF DISACCHARIDES TYPE ON PHENOLICS AND VOLATILES OF BLACKBERRY CREAM FILLINGS
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Introduction

Blackberry is known as a good source of phenolic compounds which possess strong antioxidant properties. It also has a specific flavour that is composed of great number of organic volatile compounds including alcohols, esters, acids, aldehydes, ketones and terpenes. The manufacturing and processing conditions of fruit products leads to deterioration of phenolics as well as volatile compounds thus changing product quality. Processing methods, as well as used additives should be carefully chosen during food product formulation in order to avoid losses and to achieve retention of nutritional and quality food components. The aim of this work was to study the effect of disaccharides (sucrose, trehalose and maltose), a common ingredient in the food industry, on phenolics and volatiles of blackberry cream filling.

Objectives

- Phenolics
- Proanthocyanidins
- Antioxidant activity (DPPH, ABTS, FRAP and CUPRAC)
- Volatile compounds

Results

Fig. 1. Phenolics and proanthocyanidins content (g/100 g) in blackberry cream fillings with addition of sugars

Fig. 2. Amount of terpenes determined in blackberry cream fillings with the addition of sugar

Fig. 3. Amount of D-limonene determined in blackberry cream fillings with the addition of sugar

Fig. 4. Amount of volatiles of specific chemical group in blackberry cream fillings

Conclusions

- The highest amount of phenolics were detected in samples with trehalose.
- Samples with maltose had the highest amount of proantocyanidins.
- There were no difference between samples in antioxidant activity.
- 29 volatiles were detected in samples.
- The most abundant groups were terpenes and aldehydes and ketones.
- The highest amount of terpenes were detected in samples with trehalose addition while sucrose samples had the lowest amount of these compounds.
- Aldehydes and ketones were detected in the highest amount in samples with sucrose addition while samples with maltose had the lowest amount of these volatiles.
- These results indicates that selection of adequate disaccharide is very important since it can influence on final quality of the product.

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