

THE DYNAMIC OF CHANGING ANTHOCYANIN CONTENT IN HYDRO-ALCOHOLIC MACERATED MADE FROM FROZEN BERRIES

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INTRODUCTION

The colour of beverages is an essential quality, which customer appreciate the drink. Shades of colour are very different: white, greenish-white, yellow-white, yellow, pink, purple, red-purple, etc. These shades are due to anthocyanin and leucoanthocyanin that involved in colour formation, in the proportion between themselves and the number of anthocyanine, which are forming colorants.

Anthocyanin are compounds that give colour beverages. Their presence in beverages is dominant as monoglucoside and in very small quantities as biglucoside. Anthocyanin content in beverages is highly variable, depending on the variety of vine or variety of berries, fruits etc, and the technology used for obtain beverage (1).

1. METHODS AND MATERIALS

It has been studied the following frozen berries: raspberries, black currants and black berries located in Moldova.

For preparing macerated solution were used hydro-alcoholic solutions with alcoholic concentration of 50% and 70% by volume. The duration of maceration was chosen depending on the obtained data from studied literature. Base on these data, were chosen three factors to optimise the process of maceration berries, and it was elected the basic level

X_1 – 50 g/100cm³ solution;

X_2 – maceration during 20 days;

X_3 -concentration of hydro-alcoholic solution 60% by volume.

Wide range of λ for these three factors:

for X_1 - λ - 10 g/100cm³ solution;

for X_2 - λ - 5 days;

for X_3 - λ - 10 % vol.

For all these analysed berries was set the optimization parameter Y – total concentration of anthocyanins mg/dm³.

2. RESULTS AND DISCUSSIONS

Were performed 8 variants of experience for frozen berries: raspberries, black currants and black berries, weighing 40 grams and 60 grams in 100 cm hydro solution – alcoholic strength of 50 and 70 % and maceration period from 5 days to 25 days.

Anthocyanin content was determined by the photometric method wavelength 530 nm, 1 mm tanks.

In Figures 1-3 are represented the dynamics of change for each a anthocyanin of frozen berry content depending on the duration of maceration: 5, 10, 15, 20 and 25 days.

Maximum anthocyanin content was found for the 5th day raspberries macerated, for 10 days of maceration blackberries and black currants to 15 days of maceration.

CONCLUSION

Was established the maximum levels of anthocyanins for berries analysed separately and extraction parameters for raspberries: duration maceration -5 days, 10 days for blackberries and 15 days for black currants.

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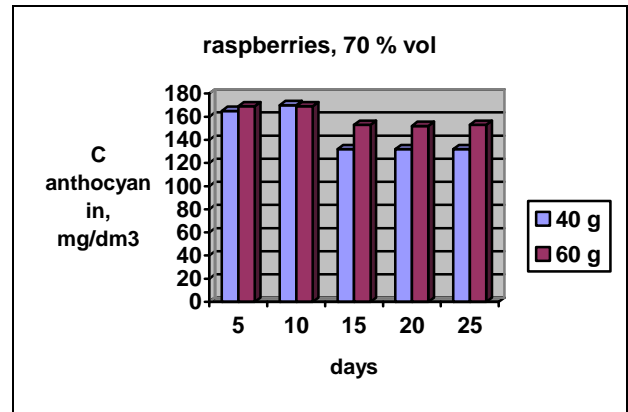
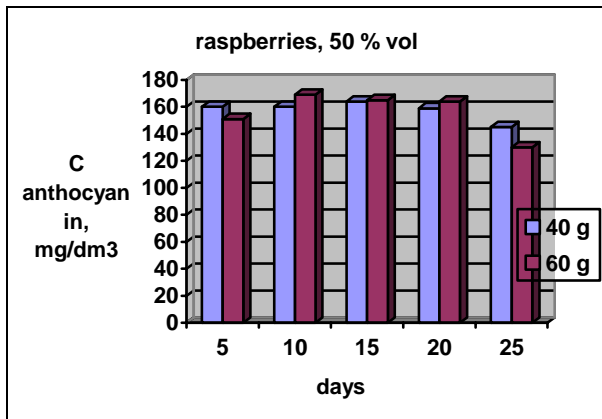


Figure 1. Anthocyanins dynamic in alcoholic extract (for 50 and 70 % volume) of frozen raspberries.

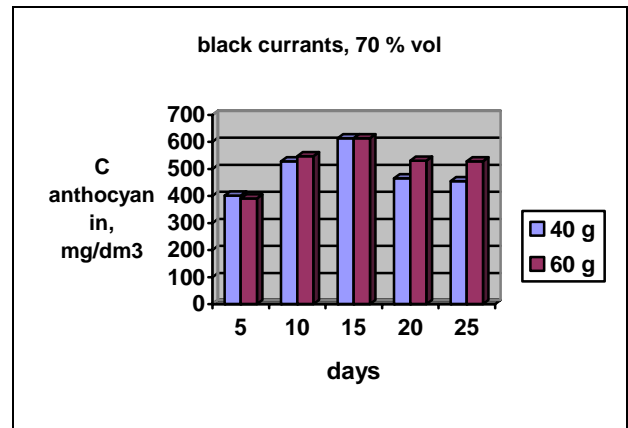
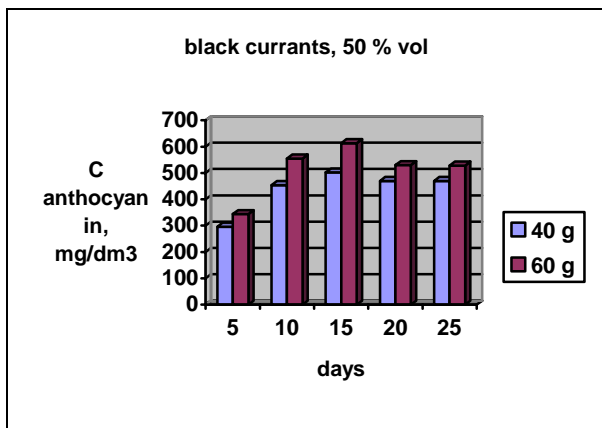


Figure 2. Anthocyanins dynamic in alcoholic extract (for 50 and 70 % volume) of frozen black currants.

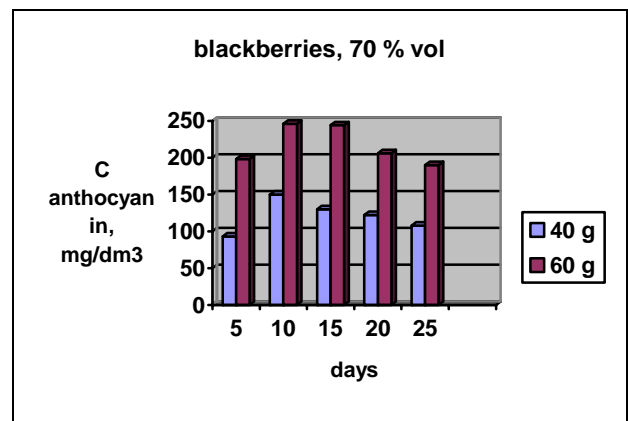
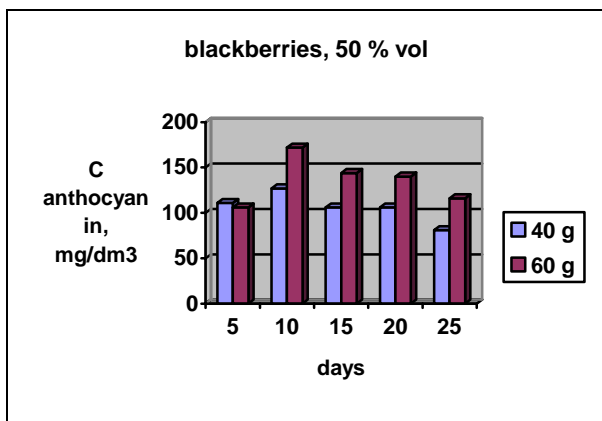


Figure 3. Anthocyanins dynamic in alcoholic extract (for 50 and 70 % volume) of frozen blackberries.