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ГАЛАХИМ



Title: Influence of pasteurization modes of functional adaptogenic beverage on the content of anthocyanins

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Affiliations:

Title

Names

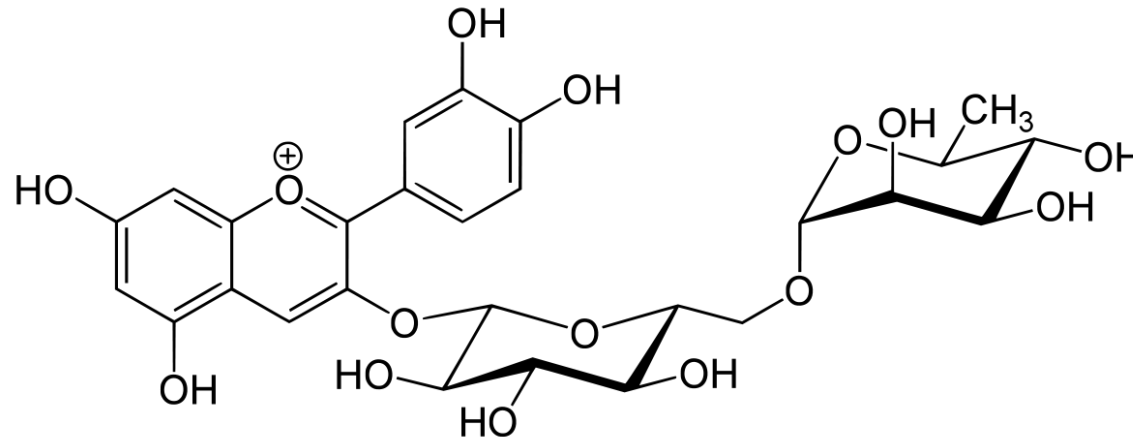
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Keywords:

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Research Objective:

Selection of pasteurization modes (temperature and holding time), at which the degradation of anthocyanins will be minimal



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Results

The concentration of anthocyanins in the finished beverage before pasteurization is 548 mg / l. To select the optimal conditions for pasteurization, three ranges of temperatures and holding times in production were used. The experimental conditions and the intervals for measuring the concentration of anthocyanins were as follows:

1. Measurement of anthocyanins was carried out every 10 minutes for 50 minutes at $t = 62-63\text{ }^{\circ}\text{C}$
2. Measurement of anthocyanins was carried out every 5 minutes for 25 minutes at $t = 72-73\text{ }^{\circ}\text{C}$
3. Measurement of anthocyanins was performed every minute for 5 minutes at $t = 82-83\text{ }^{\circ}\text{C}$.

The degree of degradation of anthocyanins differs under different conditions. Thus, at $t = 62-63\text{ }^{\circ}\text{C}$ for 50 minutes, the concentration of anthocyanins decreased by 78%; at $t = 72-73\text{ }^{\circ}\text{C}$ for 25 minutes, by 100%, and at $t = 82-83\text{ }^{\circ}\text{C}$ for 5 minutes by 70%.

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Conclusions

The optimal modes of pasteurization of a functional beverage of adaptogenic action from the point of view of maximum preservation of anthocyanins is short pasteurization at $t = 82-83^{\circ} \text{C}$ for 5 minutes in comparison with the other two modes.

References

Due to the fact that the degradation of anthocyanins, in addition to temperature, is influenced by the duration of pasteurization, therefore, the rational solution was to use the recommended holding time of 2 minutes. This is economically feasible, and provides the total microbial count (the number of mesophilic aerobic and facultative anaerobic microorganisms, KMAFAnM) within the standards established by TR CU 021/2011 "On food safety". There is no yeast or mold in the beverage.

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Thank you for your attention!

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