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Poster

Product development of new soft drink made from birch sap and sea buckthorn juice

The challenge of the research: soft drink concept generation, recipe development and laboratory testing of the product. A range of products containing different proportions of birch sap and sugar-sweetened, concentrated sea buckthorn juice was prepared and the best combination was selected by evaluating taste, odour and colour. The best-tasting beverage was then treated applying various ultrasonication regimes for better storage stability. The influence of ultrasonication on soft drink sedimentation, pH, titratable acidity, total soluble solids, CIELab colour coordinates and content of total carotenoids and β -carotene in beverage was evaluated. In addition, the taste of beverage samples treated applying various ultrasonication regimes was evaluated using a multichannel taste sensor system (e-tongue). The soft drink made from 70% birch sap and 30% sea buckthorn juice had the greatest acceptance (93% of the panelists). The best storage stability and the highest concentration of carotenoids in the beverage were achieved applying the most intense ultrasonication regime. E-tongue measurements showed that intense ultrasound treatment also had an effect on the taste of beverage made from birch sap and sea buckthorn juice.

The development of new soft drink was carried out as part of the training courses for private enterprises seeking to innovate in response to important beverage trends. Product innovations are important for the competitiveness of food processing companies. However, a lot of small and medium-sized food enterprises in Lithuania do not carry out R&D activities due to a lack of financial, material and personnel resources. The training took place in the open-access laboratory for fruits and vegetables processing technologies and modelling at the Institute of Horticulture, Lithuanian Research Centre for Agriculture and Forestry. The open-access laboratory was established in order to assist business enterprises in development of products and processing technologies.