



## THERMAL DEGRADATION OF ANTHOCYANIN IN BLUEBERRY JUICE AS AFFECTED BY SUCROSE AND VITAMIN C

**Nisa Sulejmani, Rejhana Luma, Kaltrina Selmani, Kaltrina Sejdiu, Fatbardha Tërstena, Rihan, Abduramani, Leonora Aliu, Florentina Behluli, Blerta Ajdari, Ermira Alija, Sulejman Xhezairi, Xhabir Abdullahi, Erhan Sulejmani**

Department of Food Technology, University of Tetova, 1200 Tetovo, Macedonia  
*e-mail: erhan.sulejmani@unite.edu.mk*

### ABSTRACT

Blueberry (*Vaccinium myrtillus* L.) fully ripe fruits were harvested in the first decade of August during the year 2023 in the (Sun Hill) area of Sharr Mountain, North Macedonia. A wild cultivated blueberry population, grown in localities with an altitude of 1698 m above sea level (42°33'41", 20°88'19") was used. The fruits were picked by hand, packed in polyethylene bags, and stored in a refrigerator at a temperature of -18°C within 7 months and were the subject of the study of this research. The sample weighing 500g was taken out of the freezer and left at a temperature of 4°C for 12 hours. Then 100g of the melted sample was taken and blended with a blender. The samples are homogenized, and diluted for the determination of further procedures. The present study analyzed the thermal degradation of anthocyanin in pure blueberry juice with added sugars and vitamin C. The results show that the degradation of blueberry anthocyanin follows a degradation constant degradation order with treatment time. The highest rate of anthocyanin stability was achieved by using additional vitamin C during the processing of blueberry juice during 40 minutes of heat treatment compared to that with added sugar. Further studies on blueberry anthocyanin stabilization are needed if the juice is to be processed with other ingredients in the food industry.

*Keywords: spectrophotometer, cyanidin-3-glucoside, thermal degradation, vitamin C*