

Konferenca Vivus

**8. mednarodna
konferenca**

**s področja kmetijstva
in podeželja,
naravovarstva,
hortikulture in floristike
ter živilstva in
prehrane**

**»Zdravo
okolje – naša
prihodnost«**

**ZZBORNİK
IZVLEČKOV**

Strahinj, 21. november 2024

Vivus Conference

**8th International
Conference**

**on Agriculture
and Countryside,
Environmentalism,
Horticulture, Floristics, Food
Production and Processing
and Nutrition**

**»Healthy
Environment –
Our Future«**

**COLLECTION OF
ABSTRACTS**

Strahinj, 21st November 2024

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Determination of crystallization characteristics of honey from Skopje region

Aco Janevski

Faculty of Technology, Goce Delcev University, Stip, Krste Misirkov 10-A, 2000 Stip, N. Macedonia / aco.janevski@ugd.edu.mk

Darko Andronikov

Faculty of Technology, Goce Delcev University, Stip, Krste Misirkov 10-A, 2000 Stip, N. Macedonia / darko.andronikov@ugd.edu.mk

Sasho Stojkovikj

Faculty of Technology, Goce Delcev University, Stip, Krste Misirkov 10-A, 2000 Stip, N. Macedonia / saso.stojkovikj@ugd.edu.mk

Violeta Koleva

Institute of General and Inorganic Chemistry, Bulgarian Academy of Sciences, Acad. G. Bonchev Str. Bldg. 11, 1113 Sofia, Bulgaria / vkoleva@svr.igic.bas.bg

Sani Demiri

Faculty of Technological Sciences, Mother Teresa University - Skopje, Petre Georgiev 22, 1000 Skopje, N. Macedonia / sani.demiri@unt.edu.mk

Metodija Najdoski

Institute of Chemistry, Faculty of Natural Sciences and Mathematics, Ss. Cyril and Methodius University – Skopje, Arhimedova 5, 1000 Skopje, N. Macedonia / metonajd@pmf.ukim.mk

Abstract

The crystallization characteristics of naturally crystalized and creamed honey prepared from the Skopje region are studied in this research. The chemical composition analysis of the pristine honey used for this purpose showed 4.6% sucrose, 67.8% non-reducing sugars, 1.5% free acids and 13.5% water. The honey was left to freely crystalize for one year to prepare naturally crystalized honey, while the creamed one was prepared via induced crystallization by adding nucleating agent (10% naturally crystalized honey) under stirring, for 6 days and at 20 °C. Both types of crystalized honey were subjected to x-ray diffraction (XRD) analysis combined with unique application of the Hermans-Weidinger technique, that is usually used for crystallinity determination in synthetic polymers. The phase quantification showed that the naturally crystalized honey resembles around 30% crystalline phases, while as expected, the creamed one - around 40%, but with smaller grain size. The larger grain sizes of the crystalline phase in the naturally crystalized honey can be attributed to the longer crystallization process.

Key words: honey, crystallization, creamed honey, XRD, grain size