

UNIVERZITET U NIŠU / UNIVERSITY OF NIS  
Tehnološki fakultet, Leskovac / Faculty of Technology, Leskovac

**ZBORNİK IZVODA RADOVA**  
XI SIMPOZIJUM  
" Savremene tehnologije i privredni razvoj "

**PROCEEDINGS**  
11<sup>th</sup> SYMPOSIUM  
" Novel Technologies and Economic Development "

Leskovac, 23. i 24. oktobar 2015.  
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**BOOK OF ABSTRACTS**  
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«NOVEL TECHNOLOGIES AND ECONOMIC  
DEVELOPMENT»

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## ANTIMIKROBNA AKTIVNOST BAGREMOVOG MEDA

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Antibakterijsko, antifungicidno i antivirusno dejstvo meda poznato je od davnina i najvećim delom potiče od vodonik-peroksida, koji nastaje aktivnošću enzima glukoza-oksidadaza koji pčele izlučuju u med. Pored vodonik-peroksida, antimikrobnoj aktivnosti meda doprinose i neperoksidna jedinjenja čija je zastupljenost u medu direktno povezana sa njegovim botaničkim poreklom, načinom obrade i dužinom čuvanja. U ovom radu ispitana je antimikrobna aktivnost bagremovog meda prema različitim vrstama patogenih mikroorganizama. Za one izolate kod kojih je agar difuzionom metodom utvrđena antimikrobna aktivnost bagremovog meda, određene su minimalne inhibitorne (MIC) i minimalne letalne (MLC). Najbolju aktivnost bagremov med je pokazao prema soju *Staphylococcus aureus* TL, kod koga je zona inhibicije sa 25%, 50% i 75% rastvorom bagremovog meda bila šira od zone postignute sa 3% rastvorom H<sub>2</sub>O<sub>2</sub>. Antimikrobnu aktivnost bagremov med je pokazao i prema vrstama *Escherichia coli*, *Salmonella enteritidis*, *Shigella sonnei*, *Bacillus cereus*, dok antimikrobna aktivnost nije uočena prema vrstama *Staphylococcus epidermidis*, *Listeria innocua*, *Listeria monocytogenes*, *Bacillus subtilis*, *Bacillus pumilus* i *Candida albicans*.

## THE ANTIMICROBIAL ACTIVITY OF THE ACACIA HONEY

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The antibacterial, antifungal and antiviral activity of honey has been known since ancient times and is mostly connected with hydrogen peroxide produced by the activity of the enzyme glucose oxidase, secreted by honeybees. In addition to hydrogen peroxide, non-peroxide compounds, the concentration of which is directly related to the botanical origin of honey, processing and a storage period, also contribute to the antimicrobial activity of honey. In this study, the antimicrobial activity of the acacia honey was tested against different types of pathogenic microorganisms. For those isolates for which the antimicrobial activity of the acacia honey was determined by the agar-well diffusion method, minimal inhibitory concentrations (MIC) and minimum lethal (MLC) were determined. The acacia honey showed the best activity against strain *Staphylococcus aureus* TL with the achievement of wider zones of inhibition with 25%, 50% and 75% solutions of acacia honey than the zone achieved with 3% H<sub>2</sub>O<sub>2</sub> solution. The antimicrobial activity of the acacia honey was also noticed against *Escherichia coli*, *Salmonella enteritidis*, *Shigella sonnei*, *Bacillus cereus*, while the activity was not observed against *Staphylococcus epidermidis*, *Listeria innocua*, *Listeria monocytogenes*, *Bacillus subtilis*, *Bacillus pumilus* and *Candida albicans*.