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OCTOBER 5-6 2018

**PROGRAM
I
ZBORNIK RADOVA**

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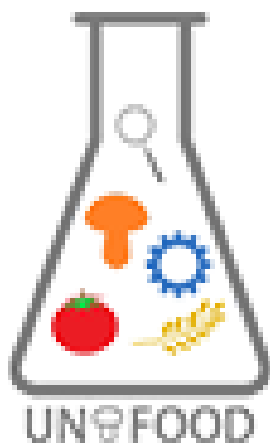
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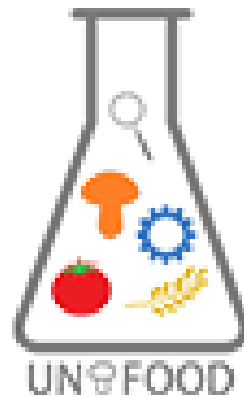


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228 saopštenja prihvaćenih za prezentovanje na konferenciji
od čega 66 usmenih označenih sa U/O



This book contains abstracts of
3 Plenary Lectures (PL)
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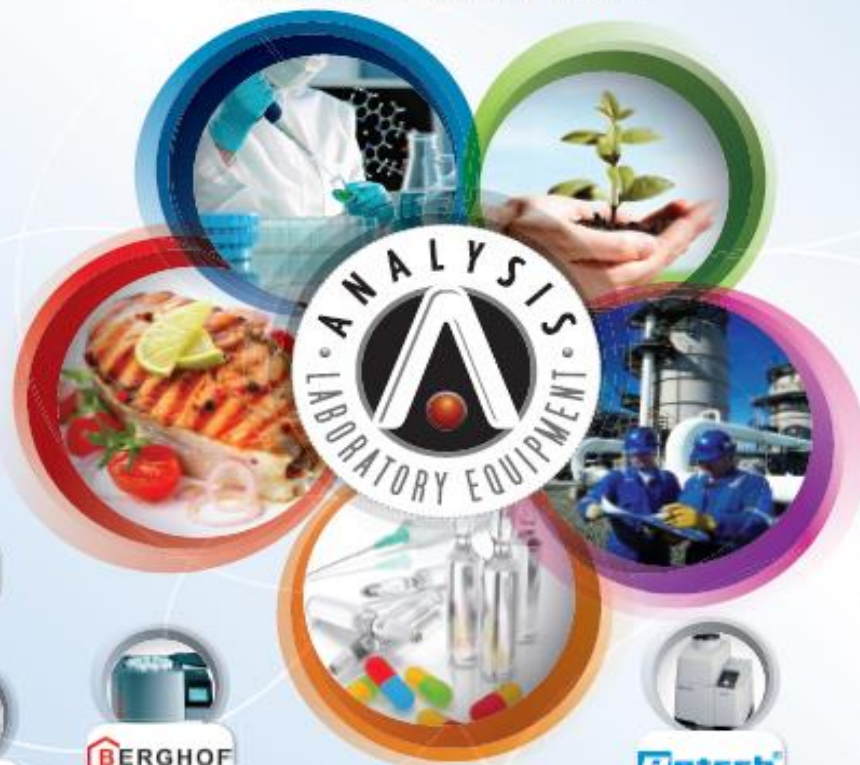
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BEZBEDNOST I KVALITET HRANA / FOOD QUALITY AND SAFETY



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Poređenje antimikrobne aktivnosti ekstrakta biljke *Artemisia absinthium* (pelin) sa aktivnošću komercijalnih likera

Marija Smiljković¹, Dejan Stojković¹, Marina Kostić¹, Milica Miletić¹, Ana Ćirić¹, Jovana Petrović¹, Jasmina Glamočlija¹, Marina Soković¹

¹ Mikološka laboratorija, Odeljenje za fiziologiju biljaka, Institut za biološka istraživanja „Siniša Stanković“, Univerzitet u Beogradu, Srbija

Artemisia absinthium L., pelin, je višegodišnja žbunasta biljka sa brojnim lekovitim svojstvima. Pelinkovac je naziv za likere sa 28% alkohola, nazvane tako po pelinu koji im daje aromu. Ispitani su likeri Pelinkovac (Slatka kuća, Kragujevac, Srbija - SK) i Gorki List (Neodoljivo bilje, Subotica, Srbija - GL). Kako bi utvrdili da li dodatno dodavanje pelina u likere može povećati njihovo korisno dejstvo, mikrodilucionom metodom je ispitana njihova antimikrobna aktivnost i poređena sa rastvorom pelina u 28% etanolu (PE). Korišćeni su mikroorganizmi izolovani iz usne duplje pacijenata, gljive *C. albicans*, *C. glabrata* i *C. krusei* i bakterije *S. pyogenes* i *E. faecalis*. Najbolju antifungalnu aktivnost je pokazao PE sa minimalnom inhibitornom koncentracijom (MIK) 0.17 mg/mL. Likeri su imali sličnu antifungalnu aktivnost sa MIK (4.19–17.32 mg/mL). Najosetljiviji je bio klinički izolat *C. glabrata*, potom sojevi *C. albicans* (3 klinička izolata i jedan referentni soj *C. albicans* ATCC 10231), dok je najotporniji bio *C. krusei* (2 klinička izolata). Najbolju antibakterijsku aktivnost ispoljio je PE (MIK 0.34-1.36 mg/mL), a soj *E. faecalis* je bio osetljiviji od *S. pyogenes*. U sprečavanju formiranja biofilma *C. albicans* najefikasniji je SK (48.2% inhibicije), GL (43.6%), PE (26.4%). Formiranje biofilma *E. faecalis* bilo je redukovano za 86.0% sa SK, 74.6% (GL), odnosno 13.6% sa PE. Biofilm *S. pyogenes* je bio rezistentniji, GL nije sprečio njegovo formiranje, SK je sprečio za 10.3% dok ga je PE redukovao za 74.5%. Oba likera mogu da spreče rast ispitanih mikroorganizama *in vitro*, ali je SK bolji u sprečavanju njihovog grupisanja, te bi se unapređivanju njegovog sadržaja moglo doprineti, naročito dodavanjem pelina koji se pokazao kao jak antimikrobni agens.

Comparison of antimicrobial potential of *Artemisia absinthium* (wormwood) extract with the activity of commercial liqueurs with wormwood flavor

Marija Smiljković¹, Dejan Stojković¹, Marina Kostić¹, Milica Miletić¹, Ana Ćirić¹, Jovana Petrović¹, Jasmina Glamočlija¹, Marina Soković¹

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Artemisia absinthium L., wormwood, is perennial bushy plant known for various health benefits. Pelinkovci is Serbian name for the liqueurs with 28% alcohol that contain wormwood (pelin) as aromatic constituent. The study examined two commercial liqueurs: Pelinkovac (Slatka kuća, Kragujevac, Serbia – PE) and Gorki list (Neodoljivo bilje, Subotica, Srbija - GL). In order to determine if addition of plant extract could increase beneficial effects of these strong drinks, microdilution method was used to examine their antimicrobial activity which has been compared with the activity of wormwood extract dissolved in 28% ethanol (PE). Microorganisms, pathogens isolated from oral cavity, were tested (fungi *Candida albicans*, *Candida glabrata* and *Candida krusei* as well as bacteria *Streptococcus pyogenes* and *Enterococcus faecalis*). Highest antifungal potential was observed for PE with minimal inhibitory concentration (MIC) 0.17 mg/mL. Liqueurs had similar antifungal activity with MIC in range 4.19–17.32 mg/mL. *C. glabrata* clinical isolate was the most sensitive followed by strains of *C. albicans* (3 clinical isolates and one reference strain *C. albicans* ATCC 10231), while *C. krusei* was the most resistant to antimicrobial treatment. Highest antibacterial activity was observed for PE (MIC 0.34-1.36 mg/mL), with *E. faecalis* strain being more sensitive than *S. pyogenes*. Best activity in preventing *C. albicans* biofilm formation was observed for SK (48.2% inhibition), GL (43.6%), PE (26.4%). Formation of *E. faecalis* biofilm was inhibited for 86.0% with SK, 74.6% GL, 13.6% PE. Biofilm formed by *S. pyogenes* was more resistant and GL could not prevent it from establishing, while SK prevented it for 10.3%. PE had highest preventing ability since it inhibited *S. pyogenes* biofilm formation for 74.5%. Both liqueurs are able to prevent growth of tested pathogenic microorganisms *in vitro*, but SK had better potential in prevention of grouping into biofilm, indicating that we could further work on development of this drink, possibly through addition of more wormwood since it has been proven as strong antimicrobial agent.