

HRVATSKI

simpozij
mljekarskih
stručnjaka

S MEĐUNARODNIM SUDJELOVANJEM

CROATIAN

dairy
experts
symposium

WITH INTERNATIONAL PARTICIPATION

LOVRAN, HOTEL EXCELSIOR
7.-10. STUDENOGA 2018.
7-10 NOVEMBER 2018.

bAktiv
SMOOTHIE
sa Žitaricama

Kad voće bira, okus briljira.



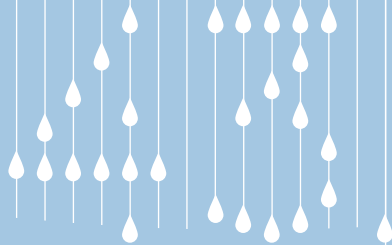
Nova neodoljiva kombinacija

Razbudite svoje tijelo i osjećajte se vitalno
uz novi okus bAktiv smoothieja sa žitaricama.

bAktiv LGG VITAMINI B₆ i E

ZA NORMALNU FUNKCIJU IMUNITETA

Dukat



HRVATSKI

simpozij
mljekarskih
stručnjaka

S MEĐUNARODNIM SUDJELOVANJEM

CROATIAN

dairy
experts
symposium

WITH INTERNATIONAL PARTICIPATION

LOVRAN, HOTEL EXCELSIOR
7.-10. STUDENOGA 2018.
7-10 NOVEMBER 2018.

IMPRESSUM

ZNANSTVENI ODBOR / SCIENTIFIC COMMITTEE MEMBERS

Irena Barukčić, Nina Bilandžić, Dorota Cais-Sokolińska, Vesna Gantner, Mirela Iličić, Ante Ivanković, Samir Kalit, Blaženka Kos, Katarina Lisak Jakopović, Mirela Lučan, Bojan Matijević, Pero Mijić, Boro Mioč, Jelena Miočinović, Tülay Özcan, Milna Tudor Kalit, Nevijo Zdolec

PREDSJEDNICA ZNANSTVENOG ODBORA / CHAIRMAN OF THE SCIENTIFIC COMMITTEE

Rajka Božanić

ORGANIZACIJSKI ODBOR / ORGANISING COMMITTEE MEMBERS

Zdravko Barać, Zoran Bašić, Zoran Grgić, Inga Kesner-Koren, Krunoslav Ladić, Duško Lapac, Antun Milić, Nada Vahčić, Ivan Volarić

PREDSJEDNICA ORGANIZACIJSKOG ODBORA / CHAIRMAN OF THE ORGANISING COMMITTEE

Vera Volarić

KONTAKT ADRESA / CONTACT ADDRESS

Hrvatska mljekarska udruga
Prolaz Fadila Hadžića 2, 10000 Zagreb
TEL 00385 1 4833 349
FAX 00385 1 4875 848
E-MAIL hmu@hmu.hr
www.hmu.hr

GRAFIČKO OBLIKOVANJE I PRIJELOM / DESIGN AND LAYOUT

kuna zlatica

LEKTURA / PROOFREADING

Jadranka Vrbnjak-Ferenčak
Irena Barukčić

TISAK / PRINT

Tiskara HLAD

POKROVITELJI / PATRONS

Ministarstvo znanosti i obrazovanja Republike Hrvatske /
Ministry of Science and Education of the Republic of Croatia

Ministarstvo poljoprivrede Republike Hrvatske /
Ministry of Agriculture of the Republic of Croatia

GLAVNI SPONZOR / GENERAL SPONSOR

Dukat d.d.

SPONZORI

Vindija d.d., Belje d.d., Alltech Hrvatska d.o.o.

IZLAGAČI / EXHIBITORS

Ru-Ve d.o.o., Delaval, Atera d.o.o., Bio Pharm Vet Digital d.o.o., Labena d.o.o.,
GEA Westfalia Separator, Noack d.o.o., VWR International

UZ POTPORU / SUPPORTED BY

Ministarstvo znanosti i obrazovanja Republike Hrvatske /
Ministry of Science and Education of the Republic of Croatia
Ministarstvo poljoprivrede Republike Hrvatske /
Ministry of Agriculture of the Republic of Croatia

kriterijima za hranu ("Službeni glasnik BiH", broj 11/13). Prema rezultatima senzorske analize uzoraka kajmaka, svi uzorci su bili u granicama svojstvenosti za vrstu proizvoda. Osim navedenih analiza, također je važno navesti i zanimljivu hranjivu vrijednost izvornih mliječnih komponenata koje su se oblikovale tijekom specifične autohtone proizvodnje i fermentacije kajmaka u mišini.

Technological procedure of producing kajmak in lambskin sack

Kajmak in lambskin sacks is a traditional dairy product with unique chemical composition and with specific sensory properties. As such, it is classified into a group of delicate and exclusive dairy products. The production of *kajmak* in lambskin sacks today is mostly imposed in family farms and certain dairies in Bosnia and Herzegovina. Due to the particular interest of consumers and the care for preservation of these traditional delicacies, the aim of the thesis was to introduce the technological procedure of *kajmak* in lambskin sacks and evaluate its microbiological, physico-chemical and sensory quality, as well as the nutritional value of the product. Based on bacteriological examinations of *kajmak* from lambskin sacks, despite heavy and demanding production and special requirements for the lambskin sacks preparation, in terms of hygienic quality of products for human consumption, all samples complied with the provisions of the Rulebook on microbiological criteria for food ("Official Gazette of B&H" no. 11/13). According to the results of the sensory evaluation *kajmak*, all examined samples were within the limits of the distinctiveness for the type of product. In addition to the above mentioned analysis, it is also important to give an interesting nutritional value of the original milk components that were formed during specific autochthonous production and fermentation of the *kajmak* in lambskin sacks.

KEY WORDS

kajmak in lambskin sack, microbiological quality, physico-chemical characteristics, sensory properties, nutritional value

POSTERS

**TANJA KESKIC*, MILADIN GAVRIĆ, STEVO TRIKIĆ,
BOJANA JOKSIMOVIĆ, ANETA KNEŽEVIĆ**

> Zavod za mlekarstvo, Autoput 3, 11000 Beograd, Srbija

* tanjakeskic@gmail.com

Kontaminacija aflatoksinom M1 u različitim vrstama sireva u Srbiji

Aflatoksin M₁ (AFM₁) se izlučuje u mlijeku kao glavni metabolit aflatoksina B₁ i kao takav predstavlja potencijalni rizik za ljudsko zdravlje. To je bitan razlog zašto je analiza prisutnosti AFM₁ u mlijeku i mliječnim proizvodima od velike važnosti. Cilj ovog istraživanja bio na srpskom tržištu ispitati koncentracije AFM₁ u različitim vrstama sireva (mekom siru, topljenom siru, svježem siru, polutvrdom siru, parmezanu, mozzarelli, tvrdom siru). Na domaćem tržištu sakupljena su ukupno 42 uzorka sira različitih proizvođača. Uzorci sireva, nakon ekstrakcije s diklormetanom, pripremljeni su i analizirani pomoću ELISA testa. Od 42 uzorka, 17 (40,5 % uzoraka) je bilo kontaminirano AFM₁ koncentracijama od

KLJUČNE RIJEČI

aflatoksin M₁, sir, ELISA, Srbija

156,0 ng/kg do 810,0 ng/kg. Petnaest uzoraka (35,7 % uzoraka) je bilo kontaminirano sa AFM₁ u rasponu od 54,0 ng/kg do 83,0 ng/kg. Za deset uzoraka (23,8 % uzoraka) utvrđene su vrijednosti AFM₁ ispod limita detekcije (<50 ng/kg). Na temelju rezultata može se zaključiti da je 28,6 % (12/42) uzoraka imalo koncentracije AFM₁ višu od EU dopuštene maksimalne razine (250 ng/kg), i to s koncentracijama od 263,0 do 810,0 ng/kg. Postotak uzoraka sira s vrijednostima AFM₁ koji prelaze europsku dopuštenu granicu relativno je visok, upozoravajući na to da je prisutnost AFM₁ i dalje velik problem proizvođača u Srbiji. Ispitivanje sirovog mlijeka koje se koristi za proizvodnju sireva važno je za zaštitu javnog zdravlja. Treba poduzeti strože mjere kako bi se postignula zadovoljavajuća razina koncentracije AFM₁. Osim toga, trebalo bi osigurati optimalne uvjete skladištenja hrane za životinje, a hranjenje životinja treba nadgledati zbog prisutnosti AFM₁ i drugih aflatoksina.

Aflatoxin M1 contaminations in different types of cheese in Serbia

POSTER

KEY WORDS
aflatoxin M₁,
cheese, ELISA,
Serbia

Aflatoxin M₁ (AFM₁) is excreted into milk as the main metabolite of aflatoxin B₁ and as such it poses a potential risk to human health. Accordingly, the analysis of AFM₁ in milk and milk products is of great importance. The aim of this research was to investigate the AFM₁ level in different types of cheese (soft cheese, processed cheese, fresh cheese, semi-hard cheese, parmesan, mozzarella, hard cheese) on the Serbian market. A total of 42 samples of cheese of different producers were collected from the domestic market. After extraction with dichlor-methane, cheese samples were prepared and analysed by ELISA test. Among the analysed 42 samples, 17 (40.5 %) were contaminated by AFM₁ at levels ranging from 156.0 ng/kg to 810.0 ng/kg. The 15 samples (35.7 % of the samples) were contaminated by AFM₁, at levels ranging from 54.0 ng/kg to 83.0 ng/kg and 10 samples (23.8 % of the samples) had undetectable AFM₁ levels (<50 ng/kg). Based on these results, it could be concluded that 28.6 % (12/42) cheese samples had AFM₁ concentration higher than EU maximum level (250 ng/kg), with concentrations between 263.0 and 810.0 ng/kg. The percentage of cheese samples with AFM₁ levels exceeding the EU maximum AFM₁ level was relatively high, indicating that the presence of AFM₁ is still a big problem for producers in Serbia. The testing of raw milk used for cheese production is important for the protection of public health. Stricter measures should be taken to reach a satisfactory level of concentration. In addition, optimum storage conditions for animal feed should be provided, and animal feeding should be monitored for the presence of AFM₁ and other aflatoxins.