

FINAL PROGRAM

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## UPCOMING CHALLENGES IN FOOD SCIENCE



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**CHC-P-124 PASTING PROPERTIES OF INFRARED HEAT-MOISTURE TREATED WHEAT AND CORN STARCH SAMPLES**

*Arzu Basman; S. Ozden Ismailoglu*

**CHC-P-125 GAMMA IRRADIATION AS AN ALTERNATIVE TO PRESERVE THE CHEMICAL AND BIOACTIVE CHARACTERISTICS OF PLANTS WIDELY CONSUMED AS INFUSIONS**

*(Eliana Pereira); Amilcar L. Antonio; João C.M. Barreira; Lillian Barros; Albino Bento; Isabel C.F.R. Ferreira*

**CHC-P-126 EFFECT OF MILLING BY-PRODUCTS ON SOME PROPERTIES OF TARHANA**

*Kübra Aktaş; Talha Demirci; Nihat Akın*

**CHC-P-127 CHANGE OF PHYSICOCHEMICAL PROPERTIES DURING TOMATO PROCESSING INTO JUICE AND HIGH FIBRE KETCHUP MADE FROM TOMATO POMACE**

*Miona Belović; Aleksandra Torbica; Jasna Mastilović; Tamara Dapčević Hadnadev; Dubravka Jambrec; Mladenka Pestorić; Žarko Kevrešan*

**CHC-P-128 INFLUENCE OF DECORTICATION AND MILLING PROCEDURE ON PARTICLE SIZE AND MINERALS DISTRIBUTION IN SORGHUM FLOURS AND BY PRODUCTS**

*Miona Belović; Jasna Mastilović; Žarko Kevrešan; Dragan Živančev; Miona Belović; Aleksandra Torbica*

**CHC-P-129 POSIBILITY OF PAN BREAD PRODUCTION FROM MILLET AND RYE CULTIVATED IN SERBIA**

*Dragan Živančev; Aleksandra Torbica; Jelena Tomić; Miona Belović*

**CHC-P-130 EFFECTS OF NEAR INFRARED TREATMENT ON ELECTROPHORETIC PATTERNS OF SOYBEAN SAMPLES**

*Seda Yalcin; Arzu Basman*

**CHC-P-131 WHEAT ALBUMINS AND ENZYMES STATUS INFLUENCED BY CLIMATE CHANGES**

*Dragan Živančev; Jelena Tomić; Aleksandra Torbica; Ljiljana Popović; Ivica Strelec; Žuzana Vaštag; Slađana Rakita*

**CHC-P-132 BREADMAKING POTENTIAL OF MILLET FLOUR WITH ADDITION OF MODIFIED STARCHES**

*Aleksandra Torbica; Jelena Tomić; Miona Belović; Dragan Živančev; Tamara Dapčević Hadnadev; Jasna Mastilović; Žarko Kevrešan*

**CHC-P-133 THE INFLUENCE OF MICROCLIMATE CONDITIONS ON THE OCCURRENCE OF ALTERNARIA TOXINS IN WHEAT FROM THE AUTONOMOUS PROVINCE OF VOJVODINA, SERBIA**

*Elizabet Janić Hajnal; Dejan Orčić; Aleksandra Torbica; Jovana Kos; Jasna Mastilović; Marija Škrinjar*

**CHC-P-134 AROMA COMPOUNDS IN WINES FROM MALVASIA AROMATICA DI CANDIA**

*Giuseppe Vasile Simone; Giuseppe Montevecchi; Francesca Masino; Enrique Durán-Guerrero; Andrea Antonelli*

# **GAMMA IRRADIATION AS AN ALTERNATIVE TO PRESERVE THE CHEMICAL AND BIOACTIVE CHARACTERISTICS OF PLANTS WIDELY CONSUMED AS INFUSIONS**

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## **Introduction**

Some of the plants included in our diet require effective conservation technologies to ensure their use in the best conditions. Irradiation may allow the decontamination of plants, maintaining their chemical, organoleptic, nutritional and bioactive properties [1,2].

## **Objectives**

In this study, the effects of gamma irradiation (1 and 10 kGy) in chemical, nutritional and antioxidant properties of *Aloysia citrodora*, *Melissa officinalis*, *Melittis melissophyllum* and *Mentha piperita*, were evaluated.

## **Material and Methods**

The nutritional value was determined by official methodologies for food analyses; free sugars were analysed by HPLC-RI, fatty acids by GC-FID, organic acids by UFLC-PDA and tocopherols by HPLC-fluorescence. Antioxidant properties of methanolic extracts and infusions were evaluated by the free radical scavenging activity, reducing power and inhibition of lipid peroxidation.

## **Results**

Despite some variations observed in the nutritional value, it was not possible to identify evident tendencies with the exception of proteins, which increased in all the samples irradiated with 10 kGy. However, in general, when analysed in an integrated approach non-irradiated sample (control) and irradiated ones were grouped indiscriminately indicating that the irradiation treatment caused no sufficient changes for defining a specific chemical profile.

## **Conclusions**

Thus, it can be concluded that gamma irradiation (up to 10 kGy) is a viable technology for studied Lamiaceae and Verbanaceae species. This is advantageous since the dose of 10 kGy guarantees disinfection and decontamination of specimens.

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