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**Session**

**PHYSICAL, CHEMICAL AND OTHER  
TECHNIQUES FOR STORED PRODUCT PEST  
CONTROL**

Session Chairs:

**Nickolas G. KAVALLIERATOS (Greece),**

**Raul N. C. GUEDES (Brazil)**

**and**

**Bhadriraju SUBRAMANYAM (USA)**

Oral communications: 18

Timetable:

Monday 29<sup>th</sup> June, 9.00 – 15.30

The potential of Croatian diatomaceous earths as grain protectant against three stored-product insects

Abstract type: oral presentation

Anita LIŠKA<sup>1</sup>, Vlatka ROZMAN<sup>1</sup>, Zlatko KORUNIĆ<sup>2</sup>, Josip HALAMIĆ<sup>3</sup>, Ines GALOVIĆ<sup>3</sup>, Ravo LUCIĆ<sup>1</sup>, Renata BALUČEVIĆ<sup>1</sup>

<sup>1</sup>University of Josip Juraj Strossmayer in Osijek, Faculty of Agriculture in Osijek, 31000 Osijek, Croatia

<sup>2</sup>Diatom Research and Consulting Inc, Guelph, ON N1H 8B8, Canada

<sup>3</sup>Croatian Geological Survey, 10000 Zagreb, Croatia

E-mail: aliska@pfos.hr

Abstract

The objective of this study was to determine the potential insecticide efficacy of several Croatian diatomaceous earths (DEs) against *Stophilus oryzae* (Linnaeus), *Tribolium castaneum* (Herbst) and *Rhyzopertha dominica* (Fabricius) adults and to compare their efficacy with the efficacy of the USA standard DE Celatom Mn 51. Diatomaceous earth Mn 51 belongs to a group of DE with medium to increased efficacy for stored agricultural products insects. Six samples of Croatian DEs (MA-4, MR-10, MR-10B, OP-4, OP-4A and PD-1) were collected from three different locations in Croatia, prepared for testing with fractions of particles  $\leq 45 \mu\text{m}$  and applied at 500 mg/kg. Insect mortality was recorded after 7 and 14 days. The highest lethal effect after 7 and 14 days showed Croatian DE sample MA-4 with 97 % and 100 % mortality respectively for *S. oryzae*, 61.5 % and 99 % mortality respectively for *T. castaneum* and 26.5 % and 34 % respectively for *R. dominica*. In all treatments the efficacy of MA-4 was in the same range with the efficacy of the standard Mn 51. The other five tested Croatian DEs had significant lower efficacy in regard to MA-4, although after 14 days mortality was 85.7 - 98 % for *S. oryzae*, 5 - 47 % for *T. castaneum* and 2 - 5 % for *R. dominica* depending on a different DE sample. These results show that Croatia has DE deposits with good and promising efficiency for tested insects.

Keywords: Croatian DEs, *Stophilus oryzae*, *Tribolium castaneum*, *Rhyzopertha dominica*, efficacy