

GMAST2023

ABSTRACT BOOK

**Global Meet on
Agricultural Science and Technology**

May 25, 2023 | Webinar



PRIME MEETINGS

D.No. 45-57-6/1, 3rd Floor, Akkayapalem, Visakhapatnam, AP 530024

Email: contact@primemeetings.org

Phone: +91 8977616212

FOREWORD

The Prime Meetings takes the pleasure to formally invite you to the Global Meet on Agriculture Science and Technology (GMAST2023) which will be held on May 25, 2023 as a Webinar.

GMAST2023, is an annual meeting organized with the intend of being a platform for researchers, engineers, academicians as well as industrial experts from all over the world to present their research results and development activities in Agriculture Science and Technology.

The meeting brings together World Class participants and young researchers looking for opportunities for exchanges that cross the traditional discipline boundaries and allows them to resolve multidisciplinary challenging problems that only a venue of this nature can offer. Through this event you will be able to share the state-of-the-art developments and cutting-edge technologies in the broad areas of Agriculture Science and Technology.

We would like to strongly encourage you to submit your abstracts and register to attend in order to share your achievements in the fields of Agriculture Science and Technology.

We cordially invite the scientific community to participate in what promises to be a memorable webinar in May 2023

Effect Long-Term Management System on Soil Weed Seed Bank

Markola Saulic^{1*}, Ivica Dalovic², Mostafa Oveisi³, Dragana Bozic⁴, Sava Vrbnicanin⁴

^{1*}Academy of Applied Technical Studies Belgrade, College of Applied Engineering Sciences, Nemanjina 2, Pozarevac, Serbia

²Institute of Field and Vegetable Crops, National Institute of the Republic of Serbia, 30, Maxim Gorki, 21000 Novi Sad, Serbia

³Department of Agronomy and Plant Breeding, University of Tehran, Karaj 77871-31587, Iran

⁴University of Belgrade, Faculty of Agriculture, Nemanjina 6, Zemun, Belgrade, Serbia

Abstract

Long-term monoculture has a de-destroying impact on plant production, while crop rotation is known as a more eco-friendly approach as provides diversification in crop management systems, modifies intensive pressure on the agricultural ecosystem, utilizes various soil horizons, and prevents the establishment of specific pests and weeds. The aim of his research was to answer: How management system over 50 years of specific continuous crop management programs (crop rotation and fertilization) effect on weed populations? This study was conducted in the experimental site of the Institute of Field and Vegetable Crops of “Plodoredi”, Rimski Šančevi, Novi Sad, Serbia. It has been estimated three monocultures of maize, wheat and soybean, 2-year crop rotation (winter wheat-maize) with and without chemical fertilizer and 3–year crop rotation (winter wheat-soybean-maize) with and without chemical fertilizer and manure. Soil samples were taken six times from 2014 to 2017 prior to sowing and after harvesting each year. Weed seeds were extracted from soils and identified and counted by species. Mixed model analysis was used to determine the effect of the crop sequence and fertilizers on weed seed bank. To compare the strength of the treatment, it calculated the log-worth with their P-values. Upon the data of a long term experiment of crop rotation, could approve that crop rotations with more crops in the sequence are significantly effective in maintaining weed population. Therefore, will be a more sustainable crop production, chemical fertilizers would imbalance the plant population diversity and manures with high number of weed seeds have potentials to totally vanish crop rotation effects. Mixed model analysis suggests that on over 50 years of the management practices crop sequence × fertilizer interaction had the highest effect (log-worth = 64.7), followed by the triple interactions between crop sequence × fertilizer × soil depth (log-worth = 30.5). The number of seeds in soil significantly decreased from surface layer to deep soil. The crop sequence efficiency in decreasing weed seed bank was highly dependent on the fertilizer management, as with chemical fertilizer, the three years crop rotations had significantly lower seed bank, while with manure, the effect of crop rotations was eliminated. Keywords: crop rotations; fertilizer; soil weed seed bank; weed population

Biography

Dr. Markola Saulić Academy of Applied Technical Studies Belgrade, College of Applied Engineering Sciences, Požarevac, Serbia.

e- mail: msaulic@atssb.edu.rs

Research interests & achievements:

Markola Saulić worked several years in the “Golden Garden” company, Serbia on the position

of deputy manager in the agricultural sector and she was team leader for the implementation ISO 9001, Global GAP and HACCP. Also, she has experience in corn selection in the Al Dahra Company. She was participant in project EU FP7 REGPOT.

Professional memberships: European Weed Science Society, Weed Science Society of Serbia, and Plant Protection Society of Serbia.