



# **BOOK OF ABSTRACTS**

**5TH INTERNATIONAL MULTIDISCIPLINARY  
CONFERENCE FOR YOUNG RESEARCHERS**

**"Resilience in the Face of Global Challenges"**

**3.-4. October 2024, Prague,  
Czech Republic**

**ISBN: 978-80-213-3450-2**

**Publisher: Czech University of Life Sciences Prague**

<b>PLANTS AND AGRICULTURE .....</b>	<b>34</b>
Factors Influencing Tree Use among Small Farmers of Gorkha District, Nepal: Livelihood Perspective.....	35
Enhancing Crop Resilience Amidst Global Challenges: Reducing Leaf Nicotine Levels through NPK Fertilization and Potassium Sources from Muriate of Potash .....	36
Genetic Evaluation of M4 Population of Pigeon pea ( <i>Cajanus cajan</i> (l.) Millsp.) through Molecular Markers.....	37
Production of High Ricinoleic Acid in <i>Ricinus Communis</i> by Gene Editing .....	38
Effects of Biological Seed Treatments on Pest Occurrence, Production Parameters and Yield of Pea ( <i>Pisum sativum</i> L.) in Organic Farming .....	39
The Influence of Resource-Saving Soybean Cultivation Technology on the Phytopathological State of the Soil .....	40
The Impact of the War on the Agriculture of Ukraine: the Scale of Social, Ecological and Economic Losses.....	41
The Hardness of Fallow and Arable Chernozem in Spring .....	42
The Influence of Biological Preparations on the Productivity of Corn Hybrids in the Conditions of Southern Ukraine.....	43
Productivity of Seed Pea Varieties in Conditions of Southern Ukraine.....	44
Cultivating Resilience: <i>Cistus ladanifer</i> L. Growth on Marginal Lands .....	45
Evaluation of Changes in Electrophysical Parameters of Typical Chernozems During Strawberry Cultivation.....	46
Characterisation, Development, and Efficacy of Wild <i>Metarhizium</i> Strains.....	47
Morphobiological Features and Productivity of Essential Oil Plants of the Lamiaceae Family in the Conditions of the Southern Steppe of Ukraine .....	48
Optimization of Green Microwave-Assisted Extraction Method for <i>Cistus ladanifer</i> L. Essential Oil .....	49
Eco-Innovative Extraction of Bioactive Compounds from Olive Pomace for Industrial Valorization.....	50
Enhancing Sustainability in the Coffee Supply Chain: Applying Controlled-Second Fermentation and Integrating Bioenergy Generation Using Dark Fermentation.....	51
Cocoa-based Family Farming Systems in Ecuador .....	52



Influence of Elevated Climate Conditions on the Plant Virus in Brassica Napus .....	53
Implementation of Sorghum in Pasta Products .....	54
Tropical roots and tuber plants on local markets in the Peruvian Amazon.....	55
Determinants of Soybean Adoption by Smallholder Farmers in Kenya.....	56
Local Knowledge, Management, and Production Challenges Associated with Drumstick Tree ( <i>Moringa oleifera</i> Lam.) in Kenya.....	57
Adoption of Improved Buffalo Breeds in Nepal: Impact on Milk Production, Sale and Consumption.....	58
Development of an in Vitro Propagation Protocol for Oca ( <i>Oxalis tuberosa</i> <i>Molina</i> ), an Andean Tuber Crop.....	59
Study of the Influence of Biofertilizers on the Productivity of Corn for Grain in the Conditions of the Sumy Region (Ukraine).....	60
Disease Resistance of Corn Hybrids Using No-Till Cultivation Technology in the Conditions of Southern Ukraine.....	61
Determination of Background Concentrations of Heavy Metals in the Soils of the Sumy Region .....	62
Substantiation of the Organic-Oriented Model for Agricultural Production: A case study of the Ukrainian Forest-Steppe.....	63
Influence of Foliar Treatment on Maize Yield.....	64
<b>ANIMALS AND ECOLOGY</b> .....	65
Genetic Diversity of Locally Adapted Turkey in Nigeria Using Mitochondrial DNA .....	66
Occurrence of <i>Borrelia burgdorferi</i> Ssensu Lato in Small Wild Mammals Around a Municipal Waste Landfill .....	67
Dietary Bacillus Species Modulate Lipid Metabolism-Related Parameters, Growth, Water Quality, and Bacterial Load in Nile Tilapia ( <i>Oreochromis</i> <i>Niloticus</i> ) .....	68
The Effect of Immunocastration and Amino Acid Supplementation on Meat Quality of Farmed Fallow Deer ( <i>Dama Dama</i> ) .....	69
The Impact of the Destruction of the Kakhovka Hydroelectric Power Station Dam on the Biodiversity of the Lower Dnieper.....	70
Where Sand Meets Water: the Potential of Extensive Aquaculture in the Western Province of Zambia .....	71



# Study of the Influence of Biofertilizers on the Productivity of Corn for Grain in the Conditions of the Sumy Region (Ukraine)

Oksana Datsko <sup>1\*</sup>, Subota Vladyslav <sup>1</sup>, Li Xue <sup>1</sup>

<sup>1</sup> Department of Agrotechnologies and Soil Science, Faculty of Agrotechnologies and Natural Resource Management, Sumy National Agrarian University, Herasima Kondratieva str. 160, Sumy, 40021, Ukraine; datsko.oksana.nikol@gmail.com

\* Correspondence: datsko.oksana.nikol@gmail.com

**Abstract:** Corn (*Zea mays*) is a major crop globally and in Ukraine, used for various purposes including food and industrial products. With the increasing interest in organic farming, the use of biofertilizers has gained attention due to their potential benefits on crop productivity without the use of chemical components. This study investigates the impact of biofertilizers on corn productivity under the specific conditions of the Sumy region. The research was conducted at the Scientific and Educational Industrial Complex of Sumy National Agrarian University in 2022. The experiment included the use of two types of biofertilizers: LEANUM (liquid) and VITAMIN O7 (powder). These biofertilizers were applied through seed inoculation, foliar application, and a combination of both methods. Corn hybrid Euralis Hemingway EC (FAO 280) was used for the study. Key parameters measured included corn productivity metrics such as the mass of 1000 seeds and yield. The application of biofertilizers did not significantly affect the structure of the corn crop, including the number of rows and grains per row. However, the combined use of LEANUM inoculation and two LEANUM foliar treatments resulted in the highest mass of 1000 seeds and the greatest overall yield. This indicates that the integrated approach of seed inoculation followed by foliar application is the most effective method for enhancing corn productivity in this region. The study concludes that while biofertilizers do not significantly alter the crop structure, their use, particularly in combined application methods, can substantially improve the yield and seed mass of corn. These findings support the use of biofertilizers as a viable strategy for organic corn production, contributing to sustainable agricultural practices in the Sumy region.

**Keywords:** corn productivity; biofertilizers; organic farming; seed inoculation; foliar application