# 5. INTERNATIONAL HARRAN CONGRESS ON SCIENTIFIC RESEARCH

December 8-10, 2023 Şanlıurfa, TÜRKİYE

## **Proceeding Book**

## **EDITORS**

Assoc. Prof. Dr. Hasan BÜYÜKASLAN Assist. Prof. Dr. Veysel DELEN

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Date: 09.12.2023 Ankara Time: 12: <sup>30</sup> -14: <sup>30</sup> Session-2 / Hall-2		Head of Session: Stanislava Stateva
C.Vijai Mr.M.Elayaraja	Institute of Science and Technology	A STUDY ON CONSUMERS PERCEPTION TOWARDS ORGANIC PRODUCTS
C.Vijai P.Sasikumar Mr.M.Elayaraja	Institute of Science and Technology	EMERGING TRENDS IN AGRICULTURE AND FUTURE OF INDIAN AGRICULTURE
Hassane Boudad Atman Adiba Sara Najjari Abdelfattah Goubi Mentag Rachid El Fazazi Kaoutar Abdelmajid Haddioui Jamal Charafi	University of Sultan Moulay Slimane	BIOCHEMICAL VARIABILITY IN APPLES (MALUS DOMESTICAL): JOINT IMPACT OF ROOTSTOCK AND VARIETY IN APPLE CULTURES
Liubov Althaim	Ternopol National Pedagogical University	IMPACT OF WAR ON AGRICULTURAL LANDSCAPES OF UKRAINE
Kavathavarapu Sai Raganjali Pilli Vijaya Durga Devi Mba	International school of technology	EXTRACTION OF VALUABLE COMPONENTS FROM RIPE PAPAYA PEEL AND THEIR APPLICATIONS AND UTALIZATION IN FOOD PROCESSING AND MARKETING
Narapamu Rajasri	International school of technology	TOWARDS A FULLY AUTOMATED IOT- ENABLED VERTICAL FARMING SYSTEM WITH NATURAL-BASED FERTILIZERS AND AI MONITORING
I.S. Wijeysingha D.A.L. Leelamanie	University of Ruhuna	EFFECTS OF ORGANIC AND INORGANIC SOIL AMENDMENTS ON AGGREGATE FORMATION IN VIGNA UNGUICULATA GROWN SOIL
Valentina Hamaiunova Lubov Honenko Tetiana Baklanova Tetiana Pilipenko	Mykolaiv National Agrarian University	ADAPTATION OF AGRICULTURE IN THE SOUTHERN STEPPE OF UKRAINE TO WAR AND CLIMATE CHANGE
Stanislava Stateva	Agricultural Academy	CONTROLLED STORAGE OF SOLANUM TUBEROSUM L.

Abdelhamid Ait M'hid	TUNING THE MAGNETIC PROPERTIES OF	
Guojian Li Mourad Boughrara Mohamed Kerouad Qiang Wang	DOPED ZNS USING TRANSITION METAL DOPING: A MULTI-SCALE COMPUTATIONAL APPROACH	679-680
Ahlem CHEBEL Abdelouahab BENRETEM Ivan DOBREV	ADVANCED CONTROL ARCHITECTURE FOR MAXIMIZING EFFICIENCY IN DOUBLY FED INDUCTION GENERATOR- BASED WIND ENERGY CONVERSION SYSTEMS	681
Ahlem CHEBEL Abdelouahab BENRETEM Ivan DOBREV	OPTIMIZING POWER GENERATION: CONTROL STRATEGIES FOR DFIG COUPLED TO A WIND TURBINE	682
Vikas Kumar Rajput B P Singh	DESIGNING AND PERFORMANCE ANALYSIS OF PHOTOVOLTAIC SYSTEM USING SIMULATION SOFTWARE	683
Daoui Salima Addou Ahmed	A COMPARATIVE STUDY BETWEEN Mg0.5CoxZn0.5xFe2O4 AND Co0.6Zn0.4MgxFe2O4: STRUCTURAL, OPTICAL AND MAGNÉTIC BEHAVIOUR	684
C.Vijai Mr.M.Elayaraja	A STUDY ON CONSUMERS PERCEPTION TOWARDS ORGANIC PRODUCTS	685-691
C.Vijai P.Sasikumar Mr.M.Elayaraja	EMERGING TRENDS IN AGRICULTURE AND FUTURE OF INDIAN AGRICULTURE	692-695
Hassane Boudad Atman Adiba Sara Najjari Abdelfattah Goubi Mentag Rachid El Fazazi Kaoutar Abdelmajid Haddioui Jamal Charafi	BIOCHEMICAL VARIABILITY IN APPLES (MALUS DOMESTICAL): JOINT IMPACT OF ROOTSTOCK AND VARIETY IN APPLE CULTURES	696
Liubov Althaim	IMPACT OF WAR ON AGRICULTURAL LANDSCAPES OF UKRAINE	697
Kavathavarapu Sai Raganjali Pilli Vijaya Durga Devi Mba	EXTRACTION OF VALUABLE COMPONENTS FROM RIPE PAPAYA PEEL AND THEIR APPLICATIONS AND UTALIZATION IN FOOD PROCESSING AND MARKETING	698

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#### IMPACT OF WAR ON AGRICULTURAL LANDSCAPES OF UKRAINE

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#### **ABSTRACT**

On February 24, 2022, Russia launched a full-scale invasion of Ukraine, continuing the military aggression that has been ongoing since 2014. The troops of the Russian Federation carry out massive bombing and shelling of Ukrainian cities and villages, unleashed mass terror against the civilian population in the temporarily occupied territories.

The movement of heavy equipment, the construction of fortifications, and military operations damage the soil cover. This leads to the degradation of vegetation and increases wind and water erosion. The damaged topography of the fields forms scenes of battle with countless circles and lines from shells and their fragments, as well as from the movement of military weapons. Instead of peaceful agricultural machinery, the tracks and wheels of multi-ton military machinery now wreak havoc on the fields. In addition, Ukrainian fertile fields are polluted by scrap metal from enemy equipment. Both land and air military equipment, of which the Russians have a lot, become toxic waste.

Unexploded ammunition and mines polluted about 300 thousand square kilometers - that is half of the territory of Ukraine. Demining on such a scale will take 5-7, or even 10 years. Fields, forests and forest strips are especially dangerous now. Demining works should be carried out as quickly as possible. After all, you need to be in time so that the shells do not get overgrown with grass and subsequently do not sink to the depths. Because then it will be even more difficult to detect and neutralize them.

Hits on agricultural land from various weapons cause damage to the soil. In some places, the holes are 4-6 meters deep and several tens of meters in diameter. Agrarians suggest creating natural habitats in these deep pits. This, they are convinced, can become a symbolic healing of war wounds and a powerful strengthening of sustainable modern agricultural production and farming. Now it is difficult to estimate the area of damage: they can vary from 1-2% and in some areas up to 40%. According to KSE, the cost of restoring such lands, including reclamation and leveling, will amount to \$39.6 million.

Burnt forests and fields. Polluted rivers and soils. Flooded cities and villages. In Ukraine, they are just beginning to calculate the damage to the environment as a result of the full-scale Russian invasion. According to the data of the State Environmental Inspection, as of January 2023, during the 11 months of military aggression of the Russian Federation, the damage to the ecology of Ukraine already amounts to more than 1 trillion 743 billion hryvnias, or more than 47.6 billion dollars. And these are only approximate calculations, while part of the Ukrainian territory still remains occupied.

**Keywords:** agricultural landscapes, soil damage, mined fields.

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5. ULUSLARARASI HARRAN BİLİMSEL ARAŞTIRMALARDA YENİLİKÇİ YAKLAŞIMLAR KONGRESİ 8-10 Aralık 2023 tarihleri arasında Şanlıurfa / Türkiye'de 29 farklı ülkenin (Türkiye-96, Diğer Ülkelerden-114) akademisyen/araştırmacılarının katılımıyla gerçekleşmiştir. Kongre 16 Ocak 2020 Akademik Teşvik Ödeneği Yönetmeliğine getirilen "Tebliğlerin sunulduğu yurt içinde veya yurt dışındaki etkinliğin uluslararası olarak nitelendirilebilmesi için Türkiye dışında en az beş farklı ülkeden sözlü tebliğ sunan konuşmacının katılım sağlaması ve tebliğlerin yarıdan fazlasının Türkiye dışından katılımcılar tarafından sunulması esastır." değişikliğine uygun düzenlenmiştir.

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