ISSN: 2329-955X
Volume-11
Journal of Plant Physiology & Pathology

4th Annual Congress on
Plant Biology & Agricultural Sciences
May 15-16, 2023 I Madrid, Spain
https://plantbiology.conferenceseries.com/

https://www.scitechnol.com/plant-physiology-pathology.php

Title: Antibiotics in agriculture-concept "One Health"

Lyudmyla Symochko[1*], Nazare Coelho Pinheiro[2] and Olena Demyanyuk[3]

[1]University of Coimbra, Portugal
[2]Coimbra Institute of Engineering, Portugal
[3]Institute of Agroecology and Environmental Management of NAAS, Ukarine

Received: Received Date: 16-05-2023 **Accepted Date:** 18-05-2023 **Published Date:** 22-05-2023

The One Health concept is an integrated and unifying approach that seeks to balance and optimize the health of people, animals and the environment. It involves collaboration among the public health, veterinary and environmental sectors and is particularly relevant for issues such as food and water safety, biosecurity, nutrition, zoonotic disease control, pollution management and combating antimicrobial resistance. Biosecurity is a strategic and integrated approach that encompasses policy and regulatory frameworks for identifying, analyzing and managing risks to human health, animal health and the environment. The primary goal of biosecurity is to prevent and control risks to life and health as they relate to particular biosecurity sectors. One critical area of biosecurity is food safety, which is a key priority in the pursuit of sustainable development goals. Managing and controlling the biocontamination of agroecosystems by antibiotic-resistant bacteria is especially important in this context. By adopting a One Health approach and implementing robust biosecurity measures, we can promote sustainable agriculture and protect the health of humans, animals and the environment. The study aimed to investigate the prevalence of antibiotic-resistant bacteria in agroecosystems and assess the associated risks to human health. The World Health Organization has recognized the emergence of antibiotic resistance as a significant global health threat.

Therefore, monitoring the spread of antibiotic-resistant bacteria in agroecosystems is crucial to mitigate the risks associated with antibiotic resistance. In our study, we observed a concerning increase in the number of antibiotic-resistant bacteria in agroecosystems over a 6-year period. Isolated total 244 dominating bacteria in 2015 year, among them 53 antibiotic-resistant bacteria, All isolates were multi-drug resistant, of which greater than 62,3% were resistant to 9 antibiotics. In 2021 number of antibiotic-resistant bacteria increased practically twice and was 98 and 78,7% of them were characterized by a high level of resistance.

The monitoring of antibiotic resistance in agroecosystems is critical for managing and controlling biosecurity and plays an important role in the implementation of the "One Health" concept.

Biography

Lyudmyla Symochko got her Master's degree in Ecology and Environment Protection in 2000, Doctor's degree (PhD) in Ecology (2005). She is Associate Professor in Biodiversity conservation since 2008. She is a specialist in environmental microbiology and ecology. Since 2010 she has focused on autecology and synecology researches of soil and water microbiota. She explores the environmental resistome and the role of natural and transformed ecosystems as a reservoir of antibiotic-resistant microorganisms. She detects antibiotic-resistant opportunistic pathogens in the environment and provides they risk assessment to human health. Since 2022 she is an invited Professor at Coimbra University, Portugal. She is an author of over 200 scientific publications, including 5 books..