

Crops Biological Protection Based on *Pseudomonas fluorescens*: Prospectives for Green Agriculture

Marina Melkumyan^{1*}, Bella Babayan^{1,2}, Tigran Yesayan², Alexander Yesayan²

¹ Research Institute of Biology, Yerevan State University, Yerevan, Armenia

² Scientific and Production Center (SPC) “Armbiotechnology” National Academy of Sciences of Republic of Armenia (NAS RA), Yerevan, Armenia

ABSTRACT

The successful cultivation of vegetables, fruits, cereals and other crops is one of the main branches of agriculture, what is extremely important for the sustainable economics. In these regards, the search green innovations for crop protection against the pests and pathogens is urgent. The quality and the yield of vegetables and fruits directly depend on chemical consistence of soil and the versatility of its microbiome. It's caused by complex interactions between phytopathogenic, entomopathogenic, and non-pathogenic microorganisms with plants and pollinators. Current research is devoted to the prospectives *Pseudomonas fluorescens* application against the phytopathogens. This non-pathogenic soil bacteria is active against the main pathogens of cucurbit crops (tomatoes, peppers, potatoes, carrots, cucumbers, etc.). In prospective, it might become a green alternative to pesticides.

Keywords: *Pseudomonas fluorescens*, phytopathogen, crops biological protection, green agriculture

References:

1. Melkumyan, M.; Babayan, B.; Grigoryan, A.; Yesayan, A. Crops Biological Protection: Phytopathogens Growth Inhibition by The Entomopathogens. *Bioact. Compd. Health Dis.* **2024** *7*, 361–374. DOI:10.31989/bchd.v7i8.1427
2. Pandit, M.A.; Kumar, J.; Gulati, S.; Bhandari, N.; Mehta, P.; Katyal, R.; Rawat, C.D.; Mishra, V.; Kaur, J. Major Biological Control Strategies for Plant Pathogens. *Pathogens* **2022** *11*, 273. DOI:10.3390/pathogens11020273

*Corresponding Author:

Marina Melkumyan, Laboratory of Ecological Safety of SPC “Armbiotechnology” NAS RA, 14 Gyurjyan str., Yerevan, 0056, Armenia.

Email: marmelk2109@gmail.com