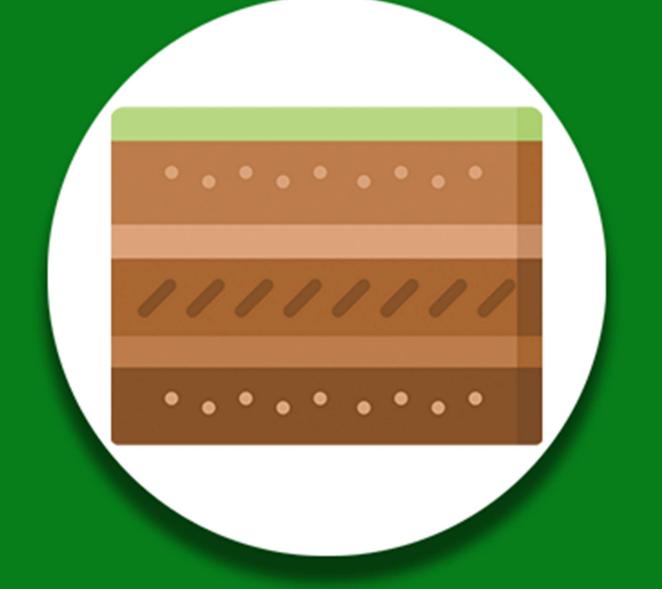
52nd EEMGS and 15th ICAW meeting, Rovinj, Croatia

Agarose seed coating with PGP bacteria alleviate DNA damage in Pisum sativum L. grown on serpentine soils

Mujo Hasanović*, Anesa Ahatović Hajro, Kasim Bajrović, Adaleta Durmić-Pašić University of Sarajevo - Institute for Genetic Engineering and Biotechnology, Sarajevo, Bosnia and Herzegovina

INTRODUCTION

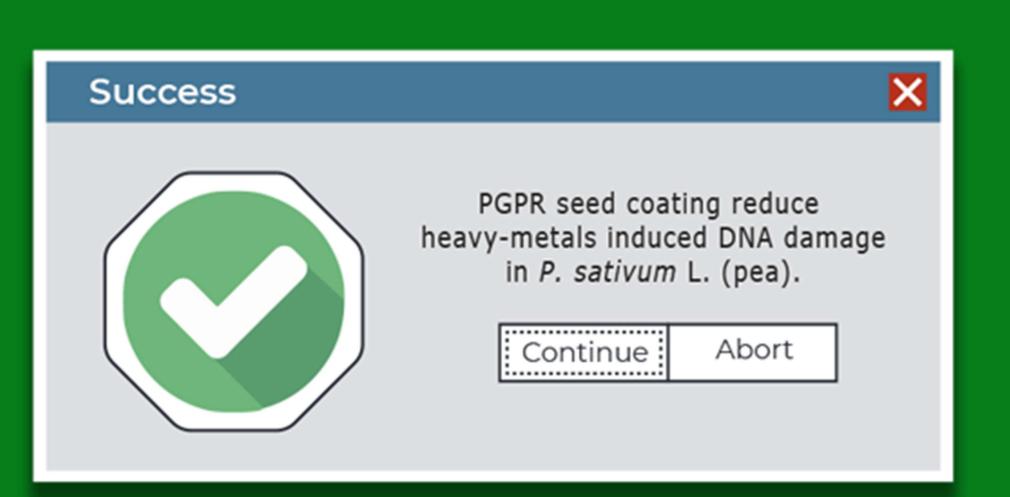




high concentrations of heavy metals

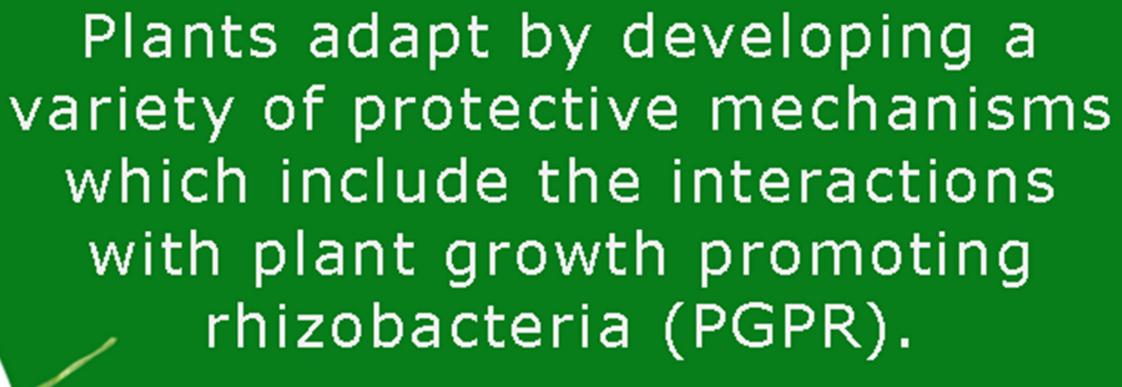
Serpentine soils challenging environment for most plants to grow 🔨

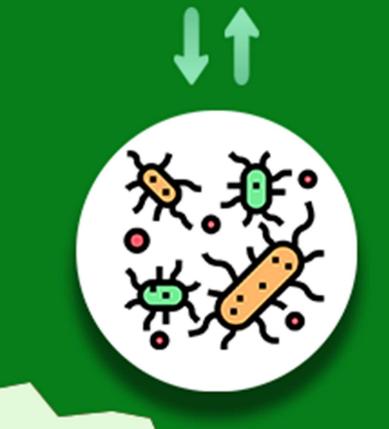


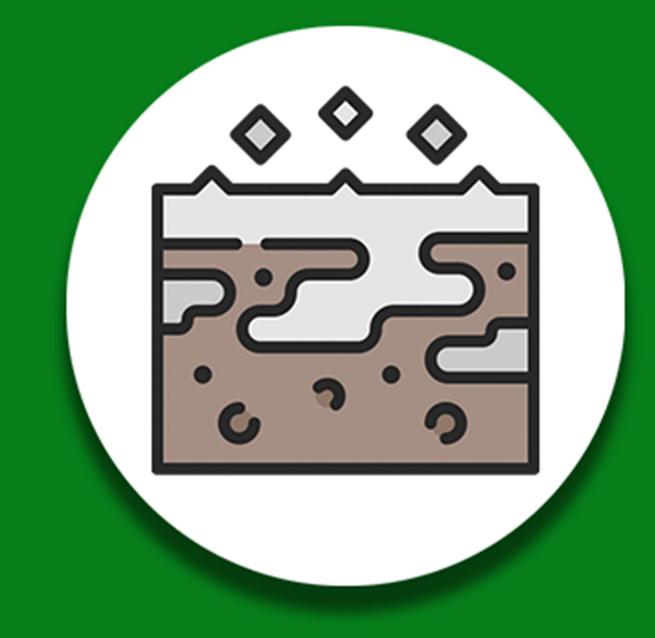




Increase in heavy- metal contaminated soils







Research of PGPR in phytoremediation and biotechnological applications.

MATERIALS AND METHODS

Pisum sativum leaves

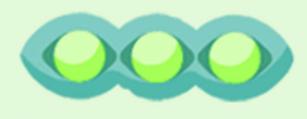
SOIL COLLECTION

serpentine sites in Central Bosnia and is rich in Ni, Cr and Fe. 🥂

BACTERIA

Serpentine Pseudomonas sp. with known PGP properties and tolerance to Ni, Co, Cu, and Cr

SEED, AGAROSE AND BACTERIA PREPARATION



Sterilization of seeds



Overnight incubation in a tryptone soy broth with *Pseudomonas* sp.



Seeds incubated with Pseudomonas sp.



Seeds incubated with Pseudomonas sp. and 0.5 % agarose

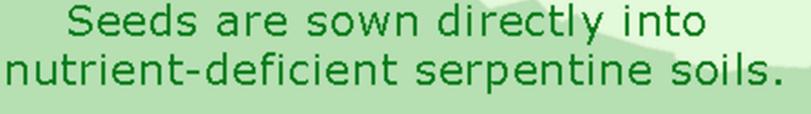














Plant comet assay was performed on fully-developed, randomly selected leaves

RESULTS

Table 1. Comparison of tail intensity between control

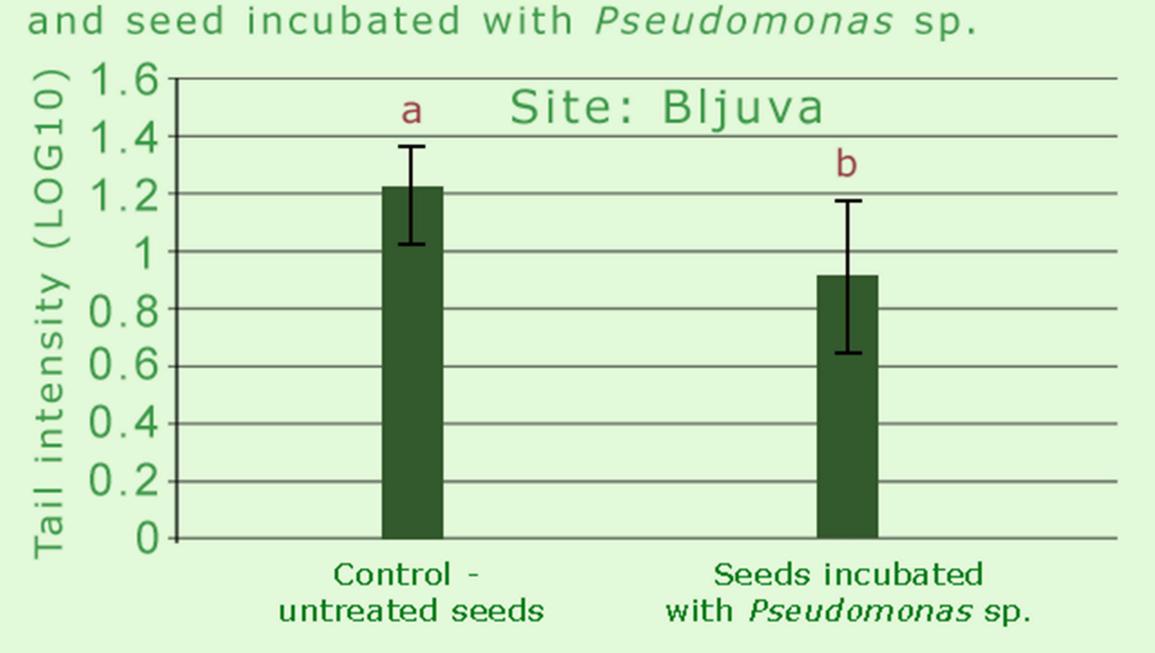
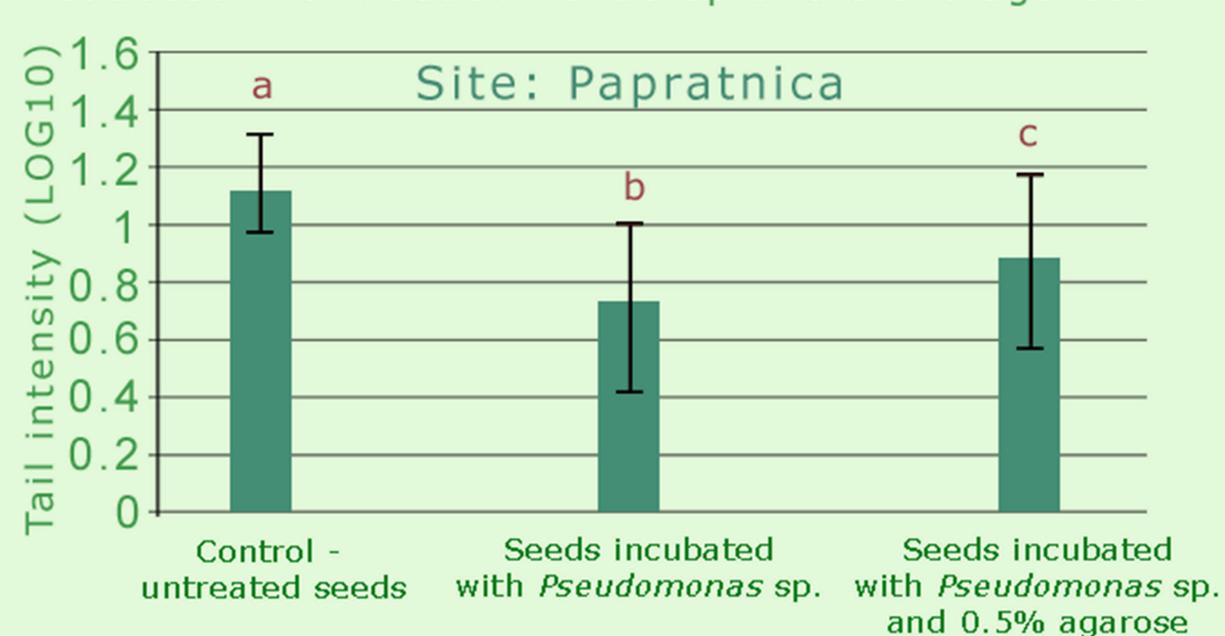


Table 2. Comparison of tail intensity between control, seed incubated with *Pseudomonas* sp. and seed incubated with *Pseudomonas* sp and 0.5% agarose



While agarose provides a physical barrier and better bacterial adherence, *Pseudomonas* sp. may have an indirect role in alleviating DNA damage by enhancing nutrient availability.





This research was funded by Federal Ministry of Education and Science, Federation of Bosnia and Herzegovina, grant No. 05-35-2444-1/23

mujo.hasanovic@ingeb.unsa.ba