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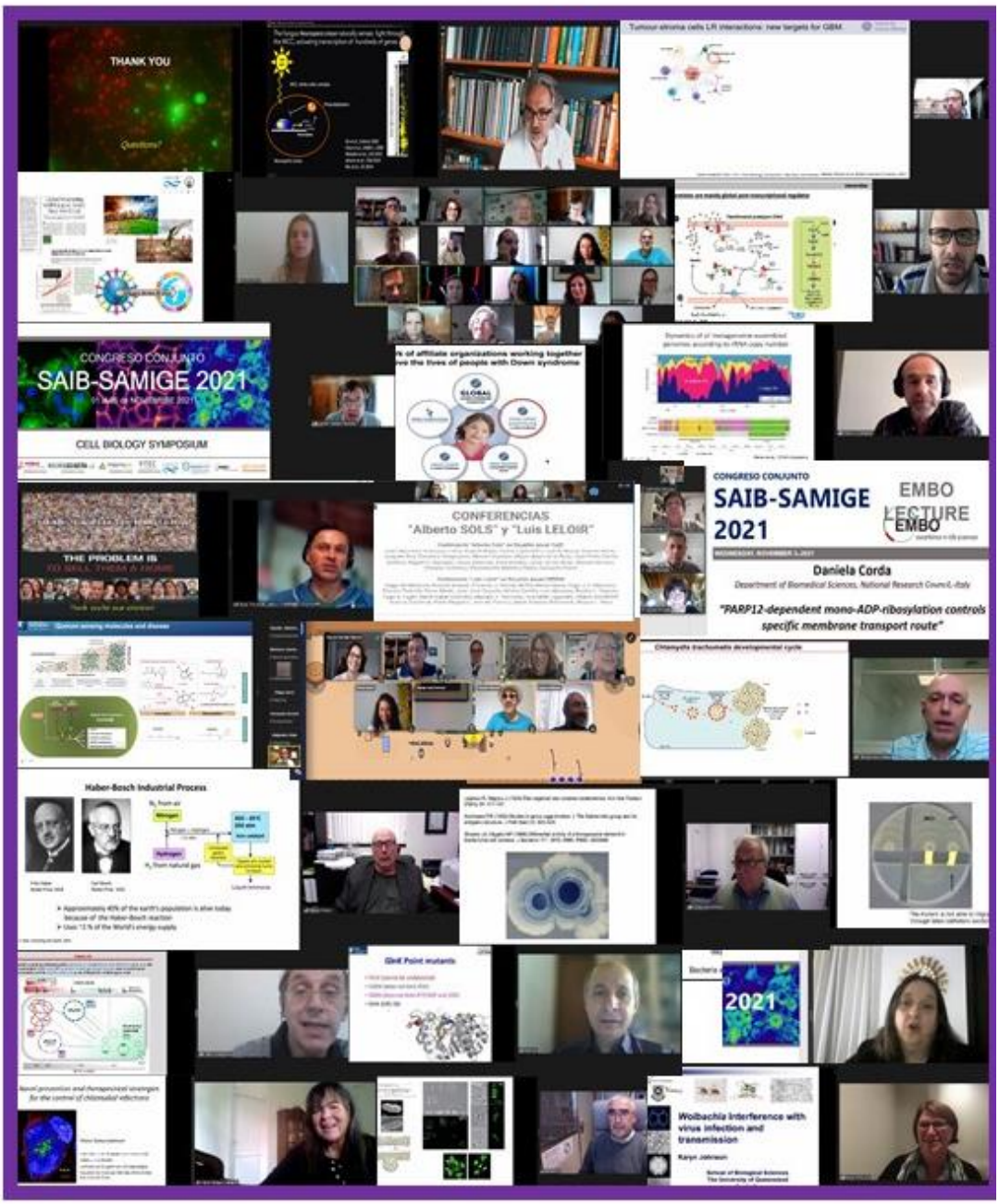

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MI-P010-129
INOCULATION OF A METALOPHYTIC PLANT WITH ARBUSCULAR MYCORRHIZAL FUNGI FROM LEAD CONTAMINATED SOILS

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The city of Córdoba is one of the most polluted cities in Argentina, with a large number of industrial plants located in urban and suburban areas. At 18 km from the capital of Córdoba is the town of Bouwer, considered one of the areas most affected by heavy metal contamination. An acid battery recycling factory dedicated to the recovery of lead (Pb) operated irregularly between 1984 and 2005. The smelter emitted Pb into the air and leaved a large amount of slag, used by neighbors to fill and level land. This caused numerous cases of Pb poisoning. Given the health risks and residence times of pollutants, it is necessary to apply remediation measures such as phytoremediation. For example, the indigenous plant B. pilosa, is a metalophytic plant species adapted to the climatic conditions and the soil of the area. The same behavior has been observed with native Arbuscular Mycorrhizal Fungi (AMF), which are important to be used as inoculants in remediation programs. Therefore, is important to select AMF species adapted to these contaminated sites. In the present work, the inoculation of B. pilosa seedlings with native AMF spores from Bouwer was evaluated. Seeds of B. pilosa collected in the field were sterilized and rinsed with sterile water. Seedlings were grown in hydroponic cultures enriched with Hoagland solution without phosphate. After 3 weeks, the seedlings were separated into 2 treatments: 1) added a Hoagland solution plus 1 mM Pb (NO3)2 and 2) added a Hoagland solution plus 1 mM NH4NO3. Thus, plants with Pb and without Pb were obtained to continue the experiment. After that, B. pilosa were inoculated with AMF (300-400 spores) from Bouwer: control site (Pb: 25 μg g-1) and a site with Pb (Pb: 7027 μg g-1). Each treatment had five repetitions and the plants were developed under controlled greenhouse conditions for 150 days. After that, the arbuscular mycorrhizal colonization was evaluated by roots staining, observed, and counted under microscope. Arbuscular mycorrhizal fungi structures were observed in B. pilosa roots. Besides, a higher percentage of colonization (30%) was registered in plants with Pb and inoculated with AMF from the site with Pb compared to the rest of the treatments. This preliminary study show that AMF isolated from contaminated sites potentially increased the arbuscular mycorrhization in B. pilosa seedlings with Pb inside.

MI-P011-130
USE OF COMMERCIAL FUNGAL INOCULANTS FOR THE CONTROL OF *Nacobbus celatus*

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Several species of plant-parasitic nematodes are responsible for causing considerable damage in agriculture. In Argentina, *Nacobbus celatus* (previously identified as *N. aberrans*) is widely distributed. It is a polyphagous species and produces galls on the host roots. In the last years, the search for biological control alternatives to replace chemical nematicides has increased, with emphasis on the use of rhizospheric organisms, including arbuscular mycorrhizal fungi (AMF) and *Trichoderma* spp. AMF establish a symbiotic association with 80% of terrestrial plants, conferring direct benefits, such as the absorption of nutrients (mainly phosphorus). On the other hand, AMF provide protection against soil pathogens, including plant-parasitic nematodes; the same antagonistic effect is also observed with *Trichoderma* spp. Commercial inocula of both microorganisms are available on the market, but their efficiency on local nematode populations is unknown. Considering a nematode population, an experiment was performed on tomato plants by applying two commercial inocula at the recommended doses: *Rhizophagus intraradices* (1 cc) and *T. atroviride* (dosis 2×10^6/ml). Treatments were: control, nematode, nematode + AMF, nematode + *T. atroviride*, nematode + AMF + *T. atroviride*. Inoculations were carried out at transplanting. Each treatment had five replicates; plants were grown under controlled conditions in a greenhouse for 60 days. After this time, the number of root galls induced by the nematode was counted. In comparison with the control, individual application of AMF and *T. atroviride* significantly reduced galls by 76% and 43%, respectively. The combined inoculation of the two fungi decreased the number of galls by 48%. The results show that the two commercial inocula have the potential to reduce *N. celatus* damage. Since the AMF-*T. atroviride* combination showed to be less efficient than the individual application of AMF, a possible antagonist effect of *T. atroviride* on AMF remains to be analysed.