and 10 or 25 µM As(III). *Swimming* and *swarming* rings were measured after 11 days and the results expressed as ring diameter (cm). *Swimming* was negatively affected by 100 µM As(V) and both tested As(III) concentrations while *swarming* was reduced by 25 µM As(III). Despite *B.* japonicum E109 developed protective mechanisms in response to As, such as the increase of EPS production and formation of biofilm, their viability and motility were negatively affected by As(III). For these reasons, an effective colonization of soybean roots by *B. japonicum* E109 and consequently the symbiosis establishment would be affected by As(III), therefore the effectiveness of inoculant application would be reduced under this condition.

Código de Resumen: MS-006

Sección: Microbiología Ambiental y del Suelo

Modalidad: Poster

DEGRADATION OF ENDOSULFAN BY BACTERIA FROM HORTICULTURAL SOIL

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The use of pesticides in periurban agricultural activities may produce environmental effects in soil and biodiversity. Previous studies have shown that the 50% of the total applied pesticides ends in soil. Endosulfan is an organchloride insecticide with high toxicity and bioaccumulation capacity whose prohibition has been considered under the Stockholm Agreement.

The aim of this work was to isolate bacterial strains which use endosulfan as sulphur and carbon source and to evaluate their growth and potential degradation capacity by their own or associated in a consortium, under different culture conditions.

For endosulfan degrader enrichment, 1g soil from a horticultural production unit, located in Moreno District, Buenos Aires, Argentina, was suspended in 9 mL 150 mM NaCl. After homogenizing, 10 mL of M9 (g/L: K_2PO_4H, 6.0; KPO_4H_2, 3.0; NaCl, 0.5; NH_4Cl, 1.0; $MgSO_4 \bullet 7H_2O$ 1M, 0.8; $CaCl_2 \bullet 2H_2O$, 1.47) supplemented with 1% of the commercial product Thionex® (EC, 35%w/v, Makhteshim) was inoculated with 1 mL of the soil suspension. The culture was incubated at 32ºC, 150 rpm during 15 days. The enriched culture (100 µL) was spread in plates with M9-agar-5% recrystallized endosulfan and incubated at 32ºC. At least three different phenotypes have been identified and colonies were purified. Pure isolates were grown in Petri dishes with M9-agar supplemented with 20mg of endosulfan, which due to its hydrophobicity, the pesticide was incorporated by spraying the plates with its ethanolic solution. For evaluating the use of endosulfan as source of carbon or sulphur, bacterial development was tested in different liquid minimal media. The pesticide was extracted from cultures and quantified using gas chromatography after three weeks at 32ºC.

Three different endosulfan-resistant strains have been isolated; two of them grew with the pesticide in pure cultures and the third one was able to grow only in a mixed culture in presence of endosulfan always in semisolid media. The obtained results in liquid media were not totally strong enough to define whether the endosulfan was metabolized as source of S and/or C as a slight growth was observed in the assayed concentrations. Apparently a fraction of the decrease of endosulfan concentration in the supernatants -when analyzed by GC- is related to its high hydrophobicity and insolubility as non metabolized pesticide was also detected in cellular pellets.

Código de Resumen: MS-007

Sección: Microbiología Ambiental y del Suelo

Modalidad: Poster

PROSPECTION OF CELLULOLYTIC ENZYMES IN TWO ARGENTINIAN NATIVE TERMITE SPECIES

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