



Contribution ID: 91

Type: Poster

P61 - Study of the elemental distribution in the stigma of a Ni hyperaccumulator plant

Friday, 11 July 2014 13:00 (1 hour)

The knowledge of the metal concentration and distribution in hyperaccumulator plants is of great interest in order to understand how and the amount of metals, the plant is able to absorb and store. Nuclear microprobe set-ups are good tools to carry out these studies.

Up to now the elemental distribution and concentration in roots, leaves and seeds of different hyperaccumulator plants have been studied, but there is less information about other vegetal organs, as flowers or fruits. Flowers are temporary organs responsible of the sexual reproductions in plants. Among other parts, flowers carry the masculine (stamens) and feminine (gynoecium) reproductive organs. The gynoecium is typically divided in ovary, stile and stigma. The stigma is the pollen receptor and the way in to the ovary for the pollen tube that eventually will reach the ovary, fecundate an ovule and produce a fruit with its corresponding seeds.

The present work studies the elemental distribution and concentration in the flower stigmas of the Iberian Ni hyperaccumulator species *Alyssum serpyllifolium* subsp. *malacitanum*. In order to study the elemental distribution in the flower stigmas nuclear microprobe techniques were used.

Significant S, Cl, K, Ca, Ti, Mn, Fe, Co and Ni concentrations non-homogenously distributed, have been found in this part of the flower. While Cl, K, S and Ni are preferentially localized at the stigma Ca, Mn and Co are mainly in the upper part. In this region, Ca distribution is clearly grainy with a concentration of about 2%, whereas Co concentration is higher than 150 ppm.

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Session Classification: Poster Session with Cheese and Wine