



Resistance of *Lupinus albus* L. in response to an enhanced aluminium bioavailability in a soil polluted by Aznalcóllar mine spill

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Some field experiments were carried out to study the possible use of white lupin plant as heavy metal phytoremediator in low pH soils. The study was carried out in the Spanish SW, in an area affected by the reservoir spill of the pyrite mine of Aznalcóllar; with residual pollution (mainly strong soil acidification and high total contents of Al, As and Cd). The experimental plot (divided in 40 sub-zones) was sown with lupin in November. Average pH and content of available elements were determined in soils. Green plants were collected after 5 months. Al, As, Cd and micronutrients were analysed in shoots and roots digests and soil extracts. Results showed high Al levels both in soil (available fraction) and in plant. Moreover a good adaptation of plants to acid and polluted soil conditions was observed, with an average shoot biomass of 5 g/plant DM, being the maximum yield in “neutral” sub-plots where heights of 70 cm were reached. This relative high Al-resistance of lupin plant may point out to its potential use in phytoremediation of soil affected by acidification process related to heavy metals.