

Effect of *Glomus etunicatum* inoculation on aluminum, phosphorus, calcium, and magnesium uptake of two barley genotypes with different aluminum tolerance

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This study was conducted to evaluate the effect of vesicular-arbuscular mycorrhizal (VAM) fungus *Glomus etunicatum* on growth, absorption, and distribution of calcium (Ca), magnesium (Mg), phosphorus (P), and aluminum (Al) in one Al-tolerant and one Al-sensitive barley cultivar. The plants were grown in sand daily irrigated with nutrient solution containing 0 or 600 μ M Al at pH 4.8.

Significant interaction ($P=0.05$) among variety, mycorrhiza, and aluminum (VxMxAl) were noted for both shoot and root dry matter (DM); shoot concentration and content of Al, P, Ca, and Mg; root concentration of Al, P, and Mg; and root content of Al, P, Ca, and Mg. With VAM inoculation: i) root colonization degree was about 50% in all treatment, ii) shoot DM yield increased between 30 and 70%, iii) Al concentration and content decrease down to a half both in shoots and roots of sensitive barley, iv) Ca concentration in shoots of sensitive barley showed a high increase at 600 μ M Al, and v) P concentration and c