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Effect of Endophytic Fungus, *Piriformospora Indica*, on Barley Resistance to Lead

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Abstract

By modifying plants at genetical, physiological and ecological levels, entophytic fungi as the most important soil microorganisms have a pronounced growth-promoting activity and also increase plant resistance to biotic and abiotic stresses. This research was undertaken to evaluate the potential of *P. indica to* increase barley (*Hordeumvulgare* L.) resistance to lead (pb). Therefore, a greenhouse experiment with two fungus treatments (non-inoculated and *P. indica* inoculated) and five levels of pb (0, 25, 50, 100 and 500 mg/kg) with three replications was conducted based on a factorial design. Measurement of shoot and root dry weight showed that the growth of *P. indica*-colonized plants at all levels of pb treatments was higher ($P < 0.05$) than that of the corresponding controls. Also, chlorophyll concentration of inoculated plants with *P. indica* was superior to non-inoculated plants. In addition, the results showed that in contrast to the plant shoot, lead concentration in the root of *P. indica*-colonized plants was higher than the non-inoculated controls.

Keyword: *Piriformospora indica*, Lead, Barley.

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