

عنوان مقاله:

Comparative Study of some Characteristics in Leaves and Roots of two Canola Genotypes under Lead Stress

محل انتشار:

مجله فیزیولوژی و پرورش گیاهان، دوره 3، شماره 1 (سال: 1392)

تعداد صفحات اصل مقاله: 23

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خلاصه مقاله:

The effects of lead on the proline content and dry weight of leaves and roots were investigated in two canola cultivars (*Brassica napus* L.) grown in the Hoagland solution. The growth of treated plants was inhibited under lead stress. Lead induced differential accumulation of proline in canola grown in solution with the addition of 0, 100 and 200 mgL⁻¹ of Pb. Hyola^{۳۰۸} cultivar showed low biomass reduction under stress condition (lead-tolerant genotype). The younger leaf (second leaf) showed low reduction in dry weight under stress and root growth decreased progressively with increasing concentration of Pb. This reduction was remarkable in the Sarigol cultivar. There was a low Pb accumulation in the lead-tolerant genotype (Hyola^{۳۰۸}). Canola had the ability to accumulate Pb primarily in its roots (especially in the case of Hyola^{۳۰۸}) and accumulated it in the shoots in much lesser concentrations. For the younger leaf increment in proline content was about two-fold. Proline content in roots was found to be lower than that of leaves under non-stress condition. Although there was linear dose dependent increase in the proline accumulation in roots, yet their magnitude was lower than the related values for leaves. However, this trend was reversed under high stress level. Under this condition, proline accumulation was consistently higher in the younger leaf. Furthermore, proline content in the roots of lead-susceptible cultivar was higher than the second and third leaf.

کلمات کلیدی:

Brassica napus, Canola, Lead stress, Proline

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