

عنوان مقاله:

Foliar Application of Selenium Affects Nitrate Accumulation and Morpho-physiochemical Responses of Garden Cress Plants

محل انتشار:

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خلاصه مقاله:

Consumption of vegetables with high nitrate content threaten human health. Garden cress is a hyperaccumulator of nitrate and quickly accumulates a large amount of nitrate. The objective of the current study was to investigate the effects of foliar application of selenium (Se) on the morphological and physiochemical traits of garden cress plants. Treatments included three levels of sodium selenite (1, 2, and 4 mg L⁻¹) and three levels of green synthesized Se nanoparticles (NPs) (1, 2, and 4 mg L⁻¹). Most nutrient treatments, especially 1 mg L⁻¹ Se NPs, significantly increased plant height, number of leaves, fresh and dry weights, chlorophyll a, total chlorophyll, and nitrate reductase activity of garden cress plants. The foliar application of Se, especially 1 mg L⁻¹ Se NPs, caused a significant decrease in the level of nitrate accumulation. Under different treatments of sodium selenite and green synthesized Se NPs on garden cress plants, the concentration of Se was increased, and concentrations of zinc and phosphorus were decreased. This research highlights the implications of Se for improving the quality and quantity of garden cress plants.

کلمات کلیدی:

Garden cress, Nitrate accumulation, nitrate reductase, nanoparticles

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