

عنوان مقاله:

Changes in antioxidant content of lemon fruits in response to zinc foliar application

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نویسندگان:

Nasim Rastgoo - Department of Horticulture, College of Agriculture, Isfahan University of Technology, Isfahan, Iran

Mahdiyeh Gholami - Department of Horticulture, College of Agriculture, Isfahan University of Technology, Isfahan, Iran

خلاصه مقاله:

Agronomic biofortification is the process of enriching fruits during crop growth with required nutrients, such as Zinc (Zn). An experiment was conducted to evaluate the foliar fertilization effects of Zn on the nutritional quality of lemon (*Citrus limon* L. Burm.) juice. The treatment consisted of three levels of zinc concentration (0, 0.5 and 1 g L⁻¹). Trees were sprayed three times at a later stage of fruit expansion with foliar applications of zinc sulfate at the above-mentioned rates. The Zn spray significantly increased the concentrations of Zn in the leaves and fruits. Application of Zn resulted in significantly higher fruit ascorbic acid, total phenolic compounds, flavonoids, anthocyanin, carotenoids, and reduced glutathione contents. Activities of peroxidase and polyphenol oxidase enzymes in fruit juice were significantly decreased with 0.5 or 1 g Zn L⁻¹ application. Although the mechanisms of changes in some juice phytochemicals are not well known, the derived data from this study could impact citrus growers and conclusively aid in the development of fruit with superior antioxidant quality.

کلمات کلیدی:

Biofortification, Citrus limon, Functional foods, Micronutrient, Nutraceutical, Biofortification, Citrus limon, Functional foods, Micronutrient, Nutraceutical

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