Effect of Zinc Ion Solution on The Plants: A Review

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Abstract

Zinc as a foliar application effectively enhanced biomass production by improving photosynthesis and nutrient uptake. Zinc is a plant micronutrient that is involved in many physiological functions. Zinc deficiency for crops is found in about 1/3 of worldwide soils due to low total Zn concentrations or high pH. Zinc toxic soils are less widespread than deficient ones. Toxic effects are identified at total Zn concentrations 100 to >1,000 mg kg−1. Seed priming has been found to double technology to enhance rapid and achieve high yields in vegetables. Recently, the fertilizer price got higher from 2019 to 2022. Application of zinc fertilizer on several plants has been obtained from crop trials that give the effect of increasing the yield, especially potato. Zinc deficiency also affects the stunting problem in children under five. Therefore, this study will investigate the relationship between zinc ion solution as fertilizers and its effect on the growth behavior of plants. The aim of this study is better growth behavior, increase the duration of crop rapid, and ability to produce added-value food products by fortified zinc, also developed a new application of the thin film product in the agricultural field. This foliar spray fertilizer could be easily adopted by smallholder mungbean farmers in low and middle-income countries. Overall, we conclude that this research could help to achieve sustainable development goal number 2, zero hunger.

Keywords : Agriculture, Foliar fertilizer, Nanotechnology, Zero hunger, Zinc deficiency

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