

THE ZINC NUTRIENT INITIATIVE: A GLOBAL PROGRAM TO ADDRESS ZINC DEFICIENCY IN CROPS

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It has been estimated that 450,000 deaths per year in children under the age of 5 are due to zinc deficiency (Black et al, 2008). The World Health Organization (2002) has estimated that 800,000 deaths per year in all age groups are attributed to zinc deficiency. Further, the Copenhagen Consensus Conference (www.copenhagenconsensus.org), including five Nobel Laureate economists identified treating zinc deficiency (along with vitamin A) as the most cost-effective solution to one of the world's most pressing issues.

It has also been estimated that 50% of the world's agricultural soils are deficient in zinc (Sillanpaa, 2006) with similar deficiency levels being found in countries such as India and China. This high prevalence of zinc deficient soils in major agricultural zones limits crop productivity and lowers the nutritional value. Zinc is one of the trace elements required by plants for normal growth and is normally considered the most critical of the micronutrients. Plants require zinc for several key functions including: membrane function, photosynthesis, protein synthesis, phytohormone synthesis, seedling vigor, sugar formation, and defense against abiotic stress factors (e.g. drought) and disease.

In light of these critical and linked issues of zinc deficiency in soils, crops and humans, the Zinc Nutrient Initiative (ZNI) was launched by the International Zinc Association. The goals of ZNI are to improve crop production and nutrition, as well as human health, through the use of zinc containing fertilizers to address this global problem. The presentation will provide an overview of the global ZNI activities including education outreach, policy efforts, communications and crop trials.