

## A REVIEW

# Zinc fertilizer : Potent public health intervention under COVID-19

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### SUMMARY

Corona virus disease 2019 (COVID-19) caused by severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) represents the biggest current health challenge for the society. At the moment, the therapeutic strategies to deal with this disease are only supportive. It is well evident that zinc (Zn) possesses a variety of direct and indirect antiviral properties, which are realized through different studies during the course of time. Administration of Zn supplement has a potential to enhance antiviral immunity, both innate and humoral, and to restore depleted immune cell function or to improve normal immune cell function, particular in immune-compromised or elderly patients. In recent years, the increasing zinc (Zn) deficiency problem has garnered attention and appears to be the most serious micronutrient deficiency along with vitamin A deficiency. The concentration of Zn in cereal crops is inherently very low and growing cereals on potentially Zn-deficient soils further decreases grain Zn concentrations. It is, therefore, not surprising that high Zn deficiency in humans occurs predominantly on areas where soils are deficient in plant-available Zn. Biofortification (enrichment) of crops with Zn and breeding new cereal genotypes for high grain Zn concentration is the most realistic and cost-effective strategy to address this problem. However, this strategy is a long-term one, and the size of plant-available Zn pools in soils may greatly affect the capacity of Zn-efficient (biofortified) cultivars to take up Zn and accumulate it in grains. Therefore, application of Zn-containing fertilizers represents a quick and effective approach to biofortify cereal grains with Zn. It is obvious that enrichment of widely applied fertilizers with Zn and/or foliar application of Zn fertilizers appear to be a high priority with the strongest potential to alleviate Zn deficiency-related problems in India. A Government action and policy plan for enrichment of selected major fertilizers with Zn is required urgently.

**Key Words :** Coronavirus disease 2019 (COVID-19), Zinc, Deficiency, Fertilizers, Biofortification, Policy

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