

Comparison of deficiency and toxicity of copper between human and crop plants: a review and some notes

ABSTRACT

The review on Copper (Cu) of its Deficiency and Toxicity (DAT) has been reported on human and plants but there are definite differences and similarities of Cu deficiency and toxicity between human and plants which remains to be poorly understood. In this review, similarities and differences of Cu deficiency and excess between human and plants are found. The similarities include any deficient or excessive levels of Cu can potentially produce harmful effects on human health and reducing vegetative growth ending with toxic effects in plants. The main difference for the dose-response curve of deficient or excessive levels of Cu is U-shaped which is based on cumulative health risk and total intake of Cu in human consumption while the dose-response curve is \cap -shaped which is based on increasing vegetative growth (and yield) and increasing Cu content in plants. This review can shed some lights on the understanding of Cu uptake on the health of the crop plant (oil palms) which is comparative to that in human.

Keyword: Copper; Deficiency; Excess