

DELINEATION AND MAPPING OF SOIL AVAILABLE ZINC AND BORON

STATUS IN SOILS OF SALEM DISTRICT OF TAMIL NADU

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ABSTRACT

The study was conducted in soils of Salem district of Tamil Nadu to delineate the soil available zinc and boron status. Totally 1691 soil samples were collected @ 4 samples per village covering 385 panchayat villages in 20 blocks of Salem district. Samples were collected randomly at 0-15 cm depth and the GPS data (Latitude °N and Longitude °E) were recorded from each sampling site. Soil samples were analyzed for DTPA-Zn (Di-ethylene Tri-amine Penta Acetic acid extractable Zinc) and HWS-B (Hot Water Soluble Boron). The analytical results were used for calculating per cent deficiency, nutrient index values and fertility ratings. The thematic maps were generated to show the extent of micronutrients deficiency or sufficiency based on block mean, nutrient index values and spatial variability. Zinc deficiency was noticed in all the blocks which demand suitable management strategies for Zn nutrition of crops. Next to Zn, B deficiency was evidenced in all the blocks except Attur, Gangavalli, Mecheri, Omalur and Valapady. A totally 32.3 per cent of the samples were found to be B deficient. The fertility rating class for Zn is marginal (1.75) whereas B (2.01) is adequate.

KEYWORDS: Di-Ethylene Tri-Amine Penta Acetic Acid (DTPA), Hot Water Soluble (HWS), Nutrient Index Values, Fertility Ratings and Thematic Maps

Received: Dec 09, 2015; **Accepted:** Dec 24, 2015; **Published:** Dec 29, 2015; **Paper Id.:** IJASRFEB20168