

# Assessment of Soil, Water and Vegetable Crops for Zinc Deficiency in Gadap Basin for Agricultural solution

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**Abstract:** Present study aimed to examine the impact of physico-chemical factors of agricultural soil on zinc availability for plant uptake in the Gadap Basin. Bio accessibility and availability were assessed for the vegetable and fruit plants. For this purpose, water (n = 6), soil (n=11), and plant (n=12) samples were collected from agricultural fields. Data revealed that both water (Range: 7.14 to 8.34; mean: of 7.99) and soil (Range: 7.8 to 8.4) pH is alkaline. The soil Eh is oxic which spans between +120 and +134 mV. Similarly, High soil salinity (Range: 163 to 322 mg/kg) is causing increasing soil pH, which is leading to less availability of zinc to plants. According to soil classification, the soil of Gadap is found to be coarse-grained where 85% of the soil retained between 60 and 100 meshes, while 5% stayed between 17 and 200 meshes, and the other 10% comprises clay. The zinc concentration in the soil ranged between 25–40 mg/kg, which is extremely low. On the other, hand zn concentration in plant samples is found to be 10.71mg/Kg-21.35mg/Kg. It is concluded that the agricultural soil of Gadap town is deficient in Zn content which is affecting the crop's nutrient index.

**Keywords:** Physicochemical factors, availability, meshes, nutrient index.



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