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A Case Study

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Micronutrient status in soils of Shirpur tehsil of Dhule district (M.S.) India

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Summary

Soil survey was carried out during 2014 in Shirpur tehsil of Dhule district (M.S.), India by using global positioning system (GPS) and geographical information system (GIS). Soil samples were analyzed for pH, EC, OC, $CaCO_3$ and available micronutrients *viz.*, Fe, Mn, Zn, Cu, B and Mo. The availability of macronutrients, micronutrients and their relationship with soil properties were also studied. The soil pH varied from 6.7 to 8.4 with mean value of 7.6 and indicated that slightly to moderately alkaline in reaction. The soil EC varied from 0.10 to 0.82 dSm^{-1} (mean 0.28 dSm^{-1}) and indicated that 100 per cent soils are non-saline in nature. The organic carbon and calcium carbonate ranged from 3.9 to 8.2 g kg^{-1} and 7.0 to 17.75 per cent with mean value of 6.12 g kg^{-1} and 12.28 per cent, respectively. The soils of Shirpur tehsil are low to high in organic carbon and high to very high in calcium carbonate content. The available micronutrients Fe, Mn, Zn, Cu, B and Mo ranged from 1.19 to 14.8, 2.02 to 5.88, 0.13 to 1.58, 0.27 to 3.98, 0.16 to 1.48 and 0.06 to 0.39 mg kg^{-1} with mean of 4.09, 2.78, 0.71, 2.32, 0.61 and 0.18 mg kg^{-1}, respectively. The soils of Shirpur tehsil were deficient in available iron (49.76%), available zinc (33.82%) and available boron (27.05%). The available Fe, Mn, Zn, Cu and B showed negative significant correlation and available Mo showed positive significant correlation with pH. Available Mn and Cu showed positive significant correlation with organic carbon. A negative significant correlation of available Cu with calcium carbonate was observed.

Key words : Micronutrients, Global positioning system (GPS) Geographical information system (GIS)

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