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Research Article

Status of micronutrients in aonla (*Emblica officinalis*) orchards in semi-arid eastern plain of Rajasthan

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Summary

Twenty representative aonla orchards of Chomu Tehsil (district Jaipur) of Rajasthan were selected and depth wise composite soil samples were collected from 0 to 30, 30 to 45 and 45 to 60 cm. The textural classes of the soils varied from sandy loam to loamy sand. The calcium carbonate content in soils showed increasing trend with depth and it increased significantly with increased in sand, available calcium, pH and magnesium. The soils of study areas were non-saline in nature and EC values decreased with the increase of soil depth. The organic carbon content in soils was found to be low. Amongst micronutrients, available Fe, Zn and B contents in soils of most of the orchards had been found deficient while, Cu and Mn were found deficient to medium.

Key words : Micronutrients, Aonla

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Introduction

The importance of fruits in providing nutrition particularly vitamins and minerals in human diet is well known. The per capita availability of fruits in the country is only 46 gram per day which is one of the lowest in world as compared to the requirement of 92 gram as prescribed by Indian Council of Medical Research. The soil, which provides nutrients to the plants, is considered key source for fruit production. Soils of the study areas were poor in fertility status as they are coarse textured having high pH, soluble salts, high content of $CaCO_3$. The mounting pressure on the nutrient soil resources would cause their deficiency. Therefore, exploration of micronutrient status of soil and plant is needed to obtain desired production of aonla.

Resources and Research Methods

Sixty representative composite surface and sub surface soil samples (0-30, 30-45 and 45-60 cm) from twenty orchards of Chomu tehsil were collected. The pH and electrical conductivity of the soil samples were measures in 1: 2 soil water suspension described by Richards (1954). The content of organic carbon in the soil samples was determined using the procedures described by Piper (1950) and calcium carbonate was estimated by rapid titration method described by Hutchinson and McLennan (1914). Texture of the soil