

SPATIAL VARIABILITY OF AVAILABLE SULPHUR IN THE RUBBER GROWING SOILS OF SOUTH INDIA

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Delineation of spatial variability in soil fertility parameters is of critical importance to identify fertility constraints of a given site and for effective soil resource management. In India, rubber is cultivated in regions varying in physiography, climate and soil properties and the soil fertility will also vary at different spatial scales. In this article, the spatial variability in available sulphur status in the rubber growing regions of South India is presented. Geo-referenced soil samples were collected from rubber growing regions of South India, analysed following standard analytical protocol and the available status was mapped geostatistically following kriging interpolation technique. Wide spatial variability, both intra and inter region was observed in available S status. In general, rubber growing regions in North Kerala, Karnataka, Goa and Maharashtra were low in available S status. Sulphur nutrition of rubber has not received adequate attention so far and these maps identify regions which need special attention with respect to S nutrition, for conducting response/case studies and surveys for future crop husbandry.

Key words: Available sulphur, Rubber growing regions, Spatial variability, South India, Sulphur nutrition

INTRODUCTION

Understanding spatial variability in soil fertility parameters is of critical importance for effective soil resource management. Spatial variability in soil properties arises due to parent materials, climate and landscape attributes and anthropogenic factors. Global positioning system (GPS) and global information system (GIS) are being increasingly used in agriculture in recent

years for mapping the spatial patterns in soil fertility parameters, identifying regional fertility constraints and for judicious soil and nutrient management.

For accurate assessment of soil properties, sampling strategy should be designed to capture the variability in various soil resources at the appropriate spatial scale (Fortin *et al.*, 1989). Though it is well known that surveying of each field is the most ideal method for prescriptive management, due