Manual of Soil, Plant and Water Analysis

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Forword

The most valuable part of the mother earth is soil which as a resource base for life on the planet. Thus, we have to maintain this important natural resource for our own survival. For this, the deficits generated on various accounts have to be made up. This is only possible when we know about the real situation prevailing at a point of time. Soil analysis come into picture here. I am happy that Dr. Tahir Ali and Shri Sumati Narayan have endeavoured in this direction by authoring the book entitled “Manual of Soil, Plant and Water Analysis”. The book has been written in a lucid and self explanatory manner. I do hope that the book will be quite useful to all concern including students, teachers, researchers and quality control personals.

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Preface

Soil, plant and water are the major ingredients of Agriculture system. Analysis of soil, plant and irrigation water as natural resources is of utmost importance for conservation strategies. To make things easy for them, the authors have attempted to bring all pertinent information together in the present work. The principal involved in various determinations have been explained and substanciated with modern concepts, giving chemical equations where necessary. The methods are described under five subheads viz., principles, apparatus, reagents, procedure, observations and calculation. The book contains simple and reliable procedure which can be useful to students, teachers, scientist and analysed in the field of applied sciences specially in the field of Soil Science, Agronomy, Horticulture and Environmental Science. Efforts are made to make the publication self explanatory and useful.
Finally, we would like to express our sincere gratitude to all the readers and also request them to send their valuable constructive remarks for the improvement in the next edition will be highly appreciated.

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Sumati Narayan
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1.1 Definition

Soil is the storehouse for providing nutrients to the crops plants. The amount and kind of nutrients required for a particular crop vary from soil to soil and even from field to field on apparently the same type of soil. The extent to which a soil can supply nutrients to a crop grown decides the amount of fertilizers needed to compensate the deficiency. The nutrients requirement of a crop can only be estimated by soil testing. The use of fertilizers and amendments without testing the soil is like taking medicine without consulting physician. The soil testing thus may be defined as rapid, chemical and other test made on a soil for assessing the status of available nutrients and other edaphic properties having direct bearing on its management and to find out what and how much is needed.