

Soil Analysis of Warud Orange Belt Region

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ABSTRACT

Soil Sampling is perhaps the most Vital step for any Soil analysis. As a very small fraction of the huge soil mass is used for analysis, It Become extremely important to get a truly representative soil sample of the field. Soil test based nutrients management has emerged as a key issue in efforts to increase agricultural productivity and production since optimal use of nutrients, based on soil analysis can improve crop productivity and minimize wastage of these nutrients, thus minimizing impact on environment leading to bias through optimal production. Deficiencies of primary, secondary and micronutrients have been observed in intensive cultivated areas.

Keywords: Nutrients, Soil, Agriculture, Micronutrients.

I. INTRODUCTION

Orange Belt region is base of satpuda hill region. It has rich Biodiversity. Also located on the border of two state Maharashtra and Madhya Pradesh. It is in the Satpuda Hill ranges with good forest cover, good sources of water. This is a rich habitat very variety of flora and fauna and so have ecological important.



We have made commendable progress in soil testing program in various ways. This compendium is an efforts to put together existing status of soil testing facilities and highlight main issues in soil testing program compendium on soil health of orange belt. Soil is important everyone either directly or indirectly. It is natural body on which agriculture product grows and it has fragile ecosystem. Soil is a medium in which crop grows to food and cloth the world. Soil fertility vital to a productive soil. Certain external factors control plants growth, air, temperature, light mechanical supports,

nutrients and water. Plants had elements for their growth and completion of life cycle. They are carbon, hydrogen, oxygen, nitrogen, phosphorus, potassium etc.

II. MATERIAL AND METHODS

The quality test survey of the soil was conducted in various parameter. Three places from WARUD Taluka covering north were selected for this study. A representative soil sample collected from each village which represents soil of 1 to 3 farm's depending upon area of village. Representative soil sample were collected following standard quadric procedure and taken in polythene bags. In laboratory these sample were analyzed for different chemical parameters following standard methods [13]. AR grade reagents and double distilled water were used for soil analysis. Results were compared with standard values to find out low, medium or high nutrient's content essential for STR.

Soil samples of Warud taluka, Dist- Amravati were collected in clean polythene bags and brought to the laboratory. It is the permissible standard, Air dry the soil samples in shade, crush the soil clods lightly and grind with the help of pestle and mortar, pass the entire

quantity through 2mm stainless steel sieve ,if gravel content is substantial record as percent of the sample (w/w) as to pass it through 0.2 to 0.5 mm sieves processing of the samples for analysis.

III. OBSERVATION & DISCUSSION

Soil samples of three different places of tribal areas surrounding WARUD .The physicochemical properties

Parameter	Red Soil	White Soil	Black Soil
pH	6.52	7.25	7.12
EC	0.14	0.09	0.11
OC	25%	20.67%	24.33%
N	Below 140 KG/HEC	281-420 KG/HEC	281-420 KG/HEC
P	Above 360 KG/HEC	Above 360 KG/HEC	Above 360 KG/HEC
K	31-50 Kg/HEC	66-80 Kg/HEC	66-80 Kg/HEC
Moisture	95.5%	94%	92.5%

Potassium is found in its mineral form and affect plants all division , Carbohydrate formation, translocation of sugar , Various enzymes action and resistance to certain plant disease , over 60 enzymes are known to require potassium for activation. Amount of nutrients to be added to soil for crop production depend on their present amount in that soil . Fertilizer is recommended , now a day STR (Soil Test Recommendation) basis in which contents of major nutrients (N,P,K) are determined following standard methods before sowing . Their value suggest quality of soil in term of its nutrients contents i.e. high, medium or low nutrients . These nutrients content are than deduced from required amount of nutrients for following crop and this much amount of nutrients is now recommended for addition to soil.

There is no intent with this system to make any interpretation as to the potential environment impact of sensitive nutrients such as phosphorus .This interpretation system in meant strictly for the determination of current soil suitability for agronomic or horticulture crop production .While nutrition availability ca be important in gauging the potential for adverse environmental effect. It is only one factor in the overall picture ,slope ,grounds cover , incorporation of nutrients sources , timing of application and other consideration all effect the potential movement of nutrients off –site and their potential for adverse environmental impact on surface and ground water.

such as moisture content. pH measurement. The fertility of the soil depends on the concentration of N,P,K organic and inorganic materials and water. Nitrogen is required for growth of plant and is a constituents of chlorophyll, Plant protein and nuclei acid. Phosphorous is most often limiting nutrients remains present in plant nuclei and act as energy storage .it help in transfer of energy.

Stefanie definition approaches the most fundamental biological feature of soil fertility. Fertility is the fundamental feature of the soil that result from the vital activity of micro population of plant roots of accumulated enzymes and chemical processes , generators of biomass and active biological substance.

IV. CONCLUSION

This can be concluded from this study that the available EC, pH, OC, N,P,K , deficient soil is recommended rich fertilizer. To predict the probable crop response to applied nutrients. To identify the type and degree of soil related problem like salinity, alkalinity and acidity etc. and to suggest appropriate reclamation/ amelioration measure. To find out suitability for growing crop and orchard. To find out suitability for irrigation .To study the soil genesis . The samples studied area of WARUD Taluka .Dist , AMRAVATI has been found to be fit for crop productivity.

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