

Study of Soil Samples of Physico Chemical Contents from Beed District

Shrekar Jyoti Raosaheb¹, Pisal Haridas Gunvantrao²

¹ Department of Geography, Janvikas Mahavidyalaya Bansarola, Tq.Kaij, D.Beed, M.S.,

² Department of Geography, Janvikas Mahavidyalaya Bansarola, Tq.Kaij, D.Beed, M.S.,

Abstract- The study was conducted on located in Beed district, M.S. from the Beed district, evaluate the fifteen different village places were selected for study, and the soil samples were brought to the laboratory for physico-chemical analysis. These soil samples were working for the analysis of pH (potential hydrogen), EC (electrical conductivity), OC (Organic Carbon), CaCo₃ (Calcium Carbonate) The present study has been taken on to find out the Physico-chemical characteristics of soil samples collected. This study exposed that at different places of some places of Beed district have medium mineral contents, and at some places, mineral contents are of high.

Index Terms- Beed District, Soil samples, Chemical, Physico Properties

I. INTRODUCTION

Soil is the one of the most important components which supports life. Soil properties are of vital importance for the growth of crop plant Species. Used for the investigative study of soil very small quantity of soil samples are to be collected by making "V" shaped depths. Now a day's farmers are facing the problems of soil degradation and soil contamination which will finally affect the growth of crop plants and creation of the crops (A.L. Dhamak 2014). Increased soil salt is the one of the most important factors which is of due to extensive use of fertilizers, count of chemicals and use of various chemicals. In fact, almost 40 % of the world's land surface is precious by salinity problem (Bacchevar 2011). Soil sampling is maybe the most vital step for any soil analysis. As a very small portion of the vast soil frame is used for investigation, it becomes extremely important to get a truly representative soil sample of the field. Soil test-based nutrients supervision has developed as a key issue in effort to increase agriculture productivity and creation since optional uses of nutrients, ground on soil analysis can improve crop productivity and minimizing wastage of these nutrients, thus

minimizing impact on environmental principal to partiality through optical creation (Bear F. E. 1976). Lacks of primary, secondary and micronutrients have been observed in concentrated urban area (Kaur H. 2002). Soil is natural body on which agriculture creation grows and it has delicate system. Soil is standard in which crop growth to food and material the world. Productiveness of soil is one of the most important features which control growth and yield of crops. Due to an improper irrigation, inequality and insufficient use of fertilizers and various cultural practices, the soil quality is reducing quickly. Soil is an important natural resource and plays a vital role in maintaining environmental balance (Bremner, J. M. 1965), Chadra R. (2009). Certain outward factors control plant growth, temperature, powered support, air, nutrients and water. The present research work is accepted to study the physico-chemical analysis of soil samples collected from different villages of Beed district, Maharashtra.

II. MATERIAL AND METHODS

The location of the study area of Beed District, (M.S). Following Taluka soil samples collected like Ambejogai, Kaij, Parali, Majalgaon, Dharu, WadVani. It is geographically site at 18° 59' 31.2432" N and 75° 46' 34.0968" E of Beed. Annual average rainfall is 396 mm with 31⁰ C to 40⁰ C annual temperatures. The soil samples were collected from fifteen different villages of the Beed district by following appropriate process of soil collection samples. The soil sample is collected from the depth of 30 cm from the surface of soil in the plastic bags. The soil samples were collected in the month of June 2022. The fifteen different villages of Beed district from where the samples are collected are Bardapur, Sugao, Bhatumba, Adas, Donapur, Nagapur, Didurd, Takewadi, Wagholi, Ganjpur, Kacharwadi, Kavadagaon, Limgaon, Ruhimpla,

Kahnapur. As per the standard procedure soil samples were analyzed for physic – chemical properties in which pH (Potential Hydrogen), EC (Electrical Conductivity), OC (Organic Carbon), CaCo₃ (Calcium Carbonate) were analyzed, (Naiknaware V.V.2018). The pH of the suspension was determined using pH meter. Electrical conductivity (EC) of the soil was determined by using conductivity meter (Chandra R 2009). OC (Organic Carbon), CaCo₃ (Calcium Carbonate) present content. Results were compared with standard values.

III. RESULTS AND DISCUSSION

Table.1 shows you can see the soil types of Beed district where soil samples have been taken and the soil has been tested taluka wise village soil types and PH, EC, OC, CaCo₃ in it have been studied in the above given table in different talukas of Beed district. Soil samples from different villages have been studied, in Ambajogai taluka of Beed district, two types of medium black and black soil were found. Kaij and Parli talukas, medium and medium black soil were found. Similarly, the soil of Majalgaon taluka was found to be heavy black to medium black. The soil of Dharur taluka was found to be medium, red soil. Soil of Wadwani taluka was found to be medium heavy in some areas, heavy in some areas and light in some areas.

Also, during the soil test in different talukas of Beed district, soil contents are pH, EC, OC and CaCo₃ in the soil were studied, in some talukas it was pH was 7 seen between 8 and when studying the EC, in the area where some land is located EC was seen between 1 and the rest 0.91. It was observed during the study of OC as well When the OC was studied, 25.9 of the area where the black soil is located, the rest was between 22.9. CaCo₃ was 4.50 and the rest were between 2.00.

IV. CONCLUSION

The present investigation shows that from different places of the Beed district some places of Beed district have medium mineral contents and at some places mineral contents is of high. The soils of study areas are classified into Vertisols, Inceptisols and Entisols. Most of the soil sample pH was alkaline in nature and EC of the soil was in safe limit for the crop growth. The organic carbon status was low to high and

calcareous in nature. Low phosphorus and high potassium were observed in this soil.

The present study can be used for soil contents analysis within time which has useful applications in agriculture and farmers.

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| Sr. No | Name of Villages | PH (Potential Hydrogen) | EC (Electrical Conductivity) | OC (Organic Carbon) | CaCo ₃ (Calcium Carbonate) |
|--------|------------------|-------------------------|---------------------------------|------------------------|---------------------------------------|
| 1 | Bardapur | 7.08 | 0.63 | 24.1 | 3.10 |
| 2 | Sugao | 8.17 | 1.09 | 24.0 | 3.90 |
| 3 | Bhatumba | 7.99 | 1.05 | 24.4 | 3.00 |
| 4 | Adas | 8.04 | 0.599 | 24.7 | 3.60 |
| 5 | Donapur | 7.49 | 0.647 | 24.0 | 4.00 |
| 6 | Nagapur | 7.63 | 1.36 | 24.3 | 4.30 |
| 7 | Didurd | 7.83 | 0.940 | 23.8 | 3.80 |
| 8 | Takewadi | 7.53 | 0.369 | 24.9 | 3.60 |
| 9 | Wagholi | 8.14 | 0.453 | 24.8 | 3.75 |
| 10 | Ganjpur | 7.79 | 0.910 | 24.0 | 4.00 |
| 11 | Kacharwadi | 8.00 | 0.988 | 23.0 | 3.90 |
| 12 | Kavadgaon | 7.77 | 0.685 | 24.6 | 2.00 |
| 13 | Limgaon | 7.09 | 0.906 | 25.9 | 4.50 |
| 14 | Ruhipimpla | 7.88 | 0.830 | 25.2 | 4.30 |
| 15 | Kahnapur | 7.98 | 0.877 | 22.9 | 4.00 |

Table No.1 Physico-chemical analysis of soil samples from different villages of Beed District