

# Studies on the General Parameters from Soil Sample in Shirampur Tehashil.

Dist : Ahmednagar, (M.S.), India

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## ABSTRACT

In ten soil samples of cultivating area in Ahmednagar District of Maharashtra, general parameters along with physico-chemical parameters have been studied. All the soil series are free from salinity hazards. Most of the soil samples contain excess general parameters like carbon, boron, sulphur, phosphorous, potassium, nitrogen, molybdenum, fluoride, calcium.

**Keywords :** Soil Quality, Physico-Chemical Parameters, Parameters.

## I. INTRODUCTION

In many parts on India, surface as well as soil has been used extensively for various purposes viz. agriculture etc. Sometimes soil is not suitable for healthy plants growth and other purposes because of chemical and biological contamination. Different are essential for the healthy growth of plants, these elements are grouped into macro and micronutrients. The deficiency or excess of these parameters such as Carbon, boron, sulphur, phosphorous, potassium, nitrogen, molybdenum, fluoride, calcium may produce synergetic and antagonistic effects on the plant growth and crop yields. Soil is the most important component of the earth. About 3.50% of ground area found on the earth is in the farms and hill. Now pollution is major problem in developing countries. The soil from manmade activities such as house hold appliances, industrial processes, high use of pesticides and fertilizers creates water pollution as well as soil pollution problems. One of the most serious threats faced today by mankind is the pollution of our environment. In fact, most of the developement countries have already realized that the very existence of life on the earth may be endangered if suitable steps are not taken for the control and abatement of air, soil and water pollution. Knowledge about the soil quality would help to decide the treatment, which should be given to soil for different purposes<sup>1-3</sup>. Hence, many people and many foreigners visit at this village, which is responsible for creates pollution. At Kamalpur, Gujarwadi, Belapur, Umabergoan, Wangi budruk , matapur, wangi khurd, kadit budruk, kadit khurd and

nimbgaon khairi. sugarcane, wheat, sorghum, soyabean, onion are cultivated as main crops but from last few years the crop yields per acre are found to be decreasing in many parts of the Kamalpur, Gujarwadi , Belapur , Umabergoan , Wangi budruk, matapur, wangi khurd, kadit budruk, kadit khurd and nimbgaon khairi area. The present study deals with the measurements of the pH, electrical conductance and estimation of available carbon, boron, sulphur, phosphorous, potassium, nitrogen, molybdenum, fluoride, calcium in different soil samples<sup>4-5</sup>.

## II. Experimental

Soil samples were collected from ten villages studied on the bank of Kamalpur, Gujarwadi , Belapur , Umabergoan , Wangi budruk matapur, wangi khurd, kadit budruk, kadit khurd and nimbgaon khairi area in Shirampur tehshil Ahmednagar district. The collection of soil samples and brings to laboratory for analysis according to standard method prescribed in APHA<sup>6</sup>. The pH and electrical conductivity of the soil were determined with 1:2 soil water suspension carbon, boron, sulphur, phosphorus, potassium, nitrogen, molybdenum, fluoride, calcium were estimated for different soils using different methods. All the chemicals used were of AR grade.

### III. Result and discussion

The moderate range of pH is 7.8 to 8.5. The soil with pH greater than 8.5 is called as sodic soil. In our sample series only two samples are sodic in nature and remaining soil series are free from solidicity hazards. The increase in pH due to high content of bi-carbonate and carbonate. The electrical conductivity in the range of 0.980 to 1.120 ds/m. conductivity is a measure of total conductance of the ionized substances. The mobility of the ions, valences, actual and relative concentrations affects conductivity. The organic carbon is in the range 0.20 mg/kg to 0.80 mg/kg., which is

depends upon the pH of humic substances. The boron content was 1.39 to 1.46 mg/kg and depends on the different factors like pH, soil texture, organic matter, light and moisture, calcium etc are known to influence the availability of boron in soil. Boron affects the metabolism and transport of carbohydrates in plants. Boron deficiency like calcium affects the growing points of roots, shoots and young leaves. Sulphur found in the range 19.0 to 21.5 mg/kg. It is moderate range and useful for the plant growth<sup>7-8</sup>. The exact moderate value of sulphur is 20 mg/kg. the amount of phosphorous, potassium, nitrogen, molybdenum, fluoride and calcium are found in the moderate range shown in table no. 1.

**Table 1.** Concentration of physico-chemical parameters

Sr. No	pH	EC ds/m	% organic carbon	Boron mg/kg	Sulphur mg/kg	Phosphorous mg/kg	Potassium mg/kg	Nitrogen mg/kg	Molybdenum mg/kg	Fluoride mg/kg	Calcium mg/kg
1	8.0	0.980	0.30	1.46	21.0	8.5	101	255	0.30	0.8	7.5
2	8.4	0.990	0.20	1.45	20.0	7.0	107	260	0.20	0.9	7.50
3	8.5	1.000	0.75	1.44	20.5	8.0	110	250	0.25	0.8	7.60
4	8.7	1.100	0.28	1.42	21.5	7.5	105	265	0.25	0.9	7.85
5	8.9	0.990	0.35	1.41	19.5	8.5	112	210	0.20	0.8	7.90
6	7.8	0.980	0.80	1.39	19.0	7.5	105	265	0.30	0.75	8.00
7	8.1	1.120	0.55	1.40	21.0	7.3	107	255	0.30	0.9	8.25
8	8.2	1.110	0.60	1.42	20.0	9.2	106	260	0.20	0.8	8.50
9	8.3	0.990	0.45	1.43	20.5	7.2	104	265	0.25	0.7	9.00
10	8.7	0.980	0.50	1.39	19.5	8.0	101	260	0.25	0.7	9.25

### IV. Conclusion

The study of evaluation of soil fertility status revealed that the soils from study area are alkaline nature. The EC values from 0.980 to 1.120 ds/m. the slightly increases shoes downstream part of Godavari river, which is due to low flushing rate and sluggish ground water movement. This leads to salinity and sodicity in the area. The organic carbon content is found to be varied from 0.20 to 0.80. The boron content 1.39 to 1.46 mg/kg, is useful for transport of carbohydrates in plants. Its deficiencies affect on roots, shoots and leaves.

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