

# Analysis of soil sample for its physico chemical parameter from pulgaon region.

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## **Abstract :**

The natural environment is clean. The favourable unpolluted environment has specific composition gets changed by addition of harmful substance but due to multitudinous activities of man. It gets polluted resulting in what is called environmental pollution. In the present study it was preferred to investigate the soil sample for its physico chemical analysis of some parameter. Fifteen samples were obtained and analysed for its PH, EC, Pottasium, phosphorous, and carbon.

**Key points:-: physico chemical, PH, EC, Pottasium, phosphorous and carbon.**

## **Introduction :**

The soil may be defined as the top layer of the earth surface in which plants can grow consisting of rock and minerals particle mixed with decayed organic matter and having the capability of retaining water. The soil is a complex organization the basic components of soil are mineral, organic matter, water, & air. Soil consists of approximately 45% mineral, 5% organic matter, 20-30% water, and 20-30% air. Soil pollution due to sewage is also very high several diseases are imposed on human beings due to pathogenic forms present in the soil. It is a need of time that we have to study the physicochemical parameters of soil to know its quality.

## **Method and Material :**

Fifteen surface soil (0.02m) samples from four different regions of Pulgaon.

## **PH :**

The most significant property of soil is its pH level. It is very important because it directly affects soil nutrient availability. Soil pH is a measure of the acidity and alkalinity in soil. pH level ranges from 0 to 14.7 being neutral soil below 7 acidic and above 7 alkaline soil.

## **Electrical conductivity(EC) :**

It is an important indicator of soil health. As the percent of clay and organic matter increases the cation exchange capacity (CEC) also increases. It is a measure of ions present in solution. Soil EC is one of the simplest, least expensive soil measurements available to precision farmers today.

**Phosphorous(p) :**

Phosphorous is an essential macro element required for plant nutrition .Phosphorous is found in the soil in organic compound.Phosphorous most often in metabolic process energy transfer and synthesis and breakdown of carbohydrates.

**Pottasium(k) :**

Pottasium is an essential plant nutrient and required in large amounts for proper growth and reproduction of plant pottasium regulates the opening and closing of stomata and regulates the Co<sub>2</sub> uptake pottasium plays a major role in the regulation of water in plants.

**Sulphur :**

Sulphur behaves like nitrate In the soil. In the plant nitrogen and sulphur are both essential building blocks for protein ,sulphur also acts as a soil conditioner and helps reduce the sodium content of soil. It is needed in very low amount.

**Carbon :**

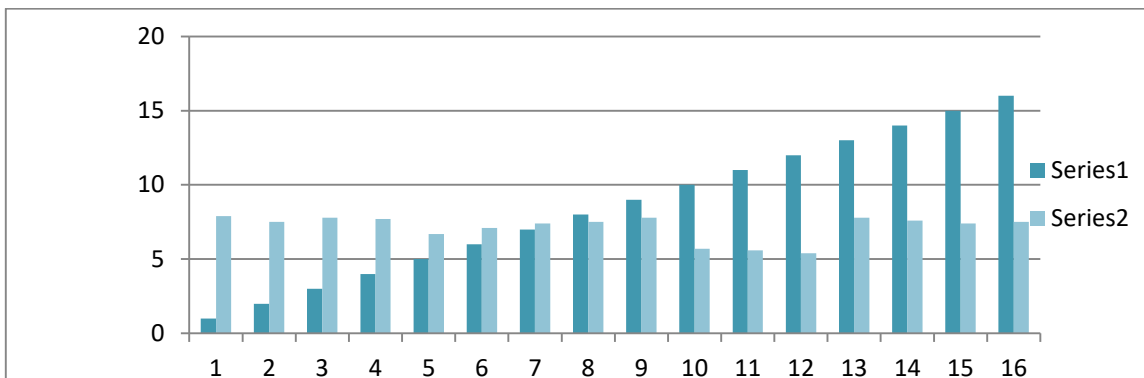
Soil organic carbon is a measurable component of soil organic matter is the basis of soil fertility. Organic matter makes up just 2-10% of most soil mass and has an important role in the physical ,chemical and biological function of agricultural soil ,It improves soil health and fertility.

**Result and Discussion:**

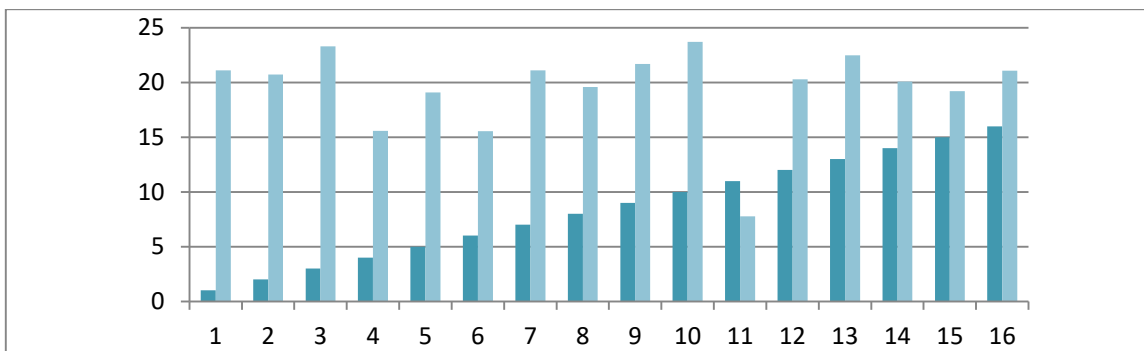
The values of physico-chemical parameter are in table:

Sr no.	Pulgaon region	PH	EC Mho/cm	Phosphorous Kilo/hect.	Pottasium PPM	Carbon %
1.	Wagholi	7.9	0.231	21.1	87.8	0.113
2		7.5	0.219	20.72	82.7	0.099
3		7.6	0.236	23.31	74.6	0.123
4		7.7	0.249	15.57	86.8	1.23
5	Gunjkheda	6.7	0.890	19.10	78.7	0.89
6		7.1	0.820	15.54	70.8	0.78
7		7.4	0.790	21.1	75.5	0.82
8		7.5	0.812	19.58	79.8	0.84
9	Kaotha	7.8	0.321	21.70	213.2	0.87
10		5.7	0.345	23.71	257.9	1.18
11		5.7	0.413	7.72	250.7	0.34
12		5.6	0.380	20.3	223.2	0.41
13	Nachangaon	7.8	0.249	22.3	208.3	0.85
14		7.6	0.270	20.1	233.2	0.56
15		7.4	0.283	19.02	223.1	0.29
16		7.5	0.298	21.07	208.3	0.78

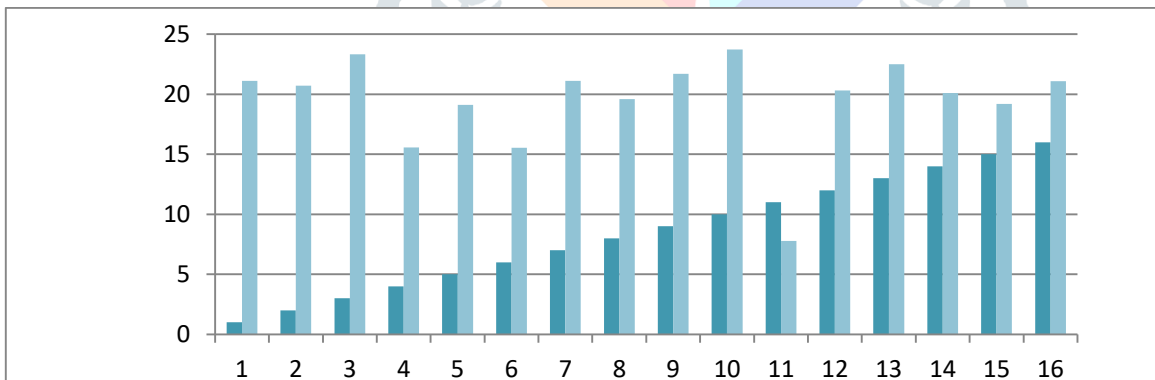
**PH**



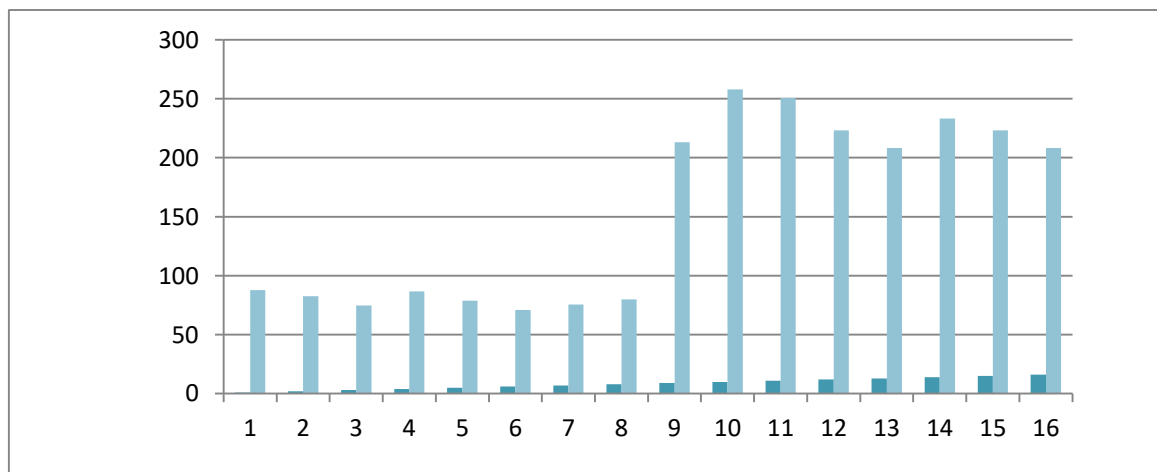
### EC



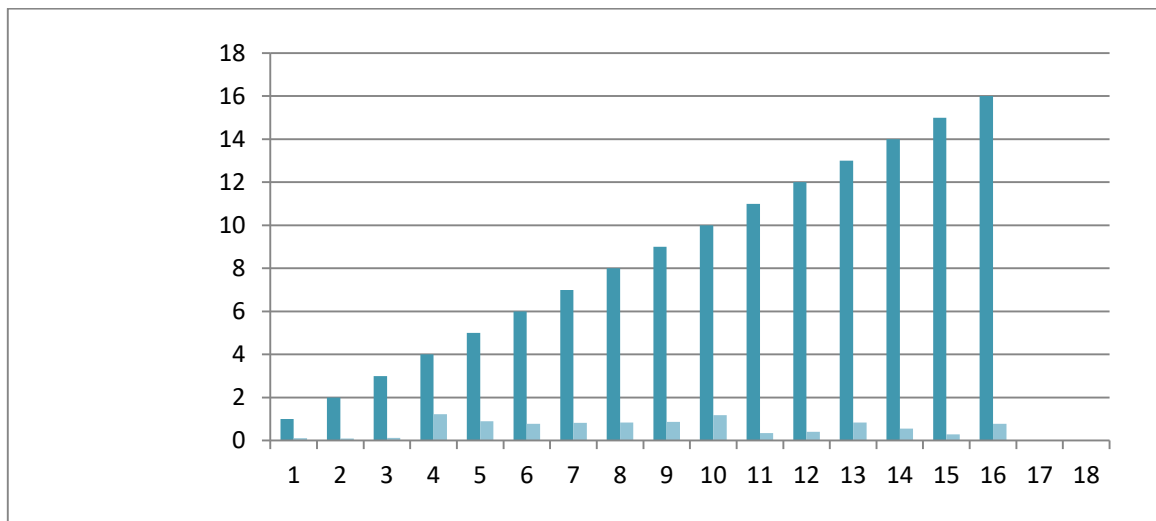
### PHOSPHOROUS



### POTTASIIUM



## CARBON%



We had collected soil sample from different areas of pulgaon region .we found that the values of soil of PH in this area range from 7.4 to 7.9 indicating an alkaline nature of soil while EC values range from 0.3 to 0.6 mho/cm (normal EC ranges from 0.02 to 2.0 mho/cm) and such soil is said to be non saline. The low EC values could be due to high rainfall in this area which washes out soluble cations from the soil. Phosphorous is necessary for seed germination and essential for flowering and fruits formation. Deficiency symptoms are purple stems and leaves, yields of fruits are poor. Observed values of phosphorous range between 7.72 to 23.31 kg/hectare. Pottasium values range between 75.5 to 257.9 ppm. Carbon is 0.29 to 1.23%.

### Conclusion :

It was observed that different areas of soil had influences on the physico chemical characteristics of the soil. However, application of more labile organic inputs, liming material and suitable inorganic fertilizers (N-P-K) would be effective for sustainable management and improving fertility status of the soil. Such type of monitoring of soil sample is beneficial to know the concentration of various parameters present in soil samples.

### References :

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