

Plant Growth is Influenced by the Nature of the Soil

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Abstract

Soil is one of the three major natural resources, alongside air and water. It is one of the marvelous products of nature and without which there would be no life. Soil is made up in part of finely ground rock particles grouped according to size as sand and silt in addition to clay, organic material such as decomposed plant matter. There are basically three types of soil, each one has its features and nature. These are; Clay soil (Alkaline) particles are very small and compact. Gardens with these types of soil particles don't work well because the air has a hard time getting to the roots. Sandy soil particles are large. The water and nutrients (particularly nitrogen) quickly drain away from the plant root zone. Silt soil is made up of fine particles. Like clay the soil holds water but have good aeration around the root In this research we have studies and examined the plant growth in specific area. The plant did not grow in that area. We analyzed the soil to understand the reasons. The results of the test show that the soil is Alkaline. It is a poor soil structure and a low infiltration capacity. Often they have a hard calcareous layer



Research Questions and Hypothesis:

Do chemical properties of the soil affect on plant growth?

Is there a link between the type of soil and the type of plant?

The effect of the chemical properties of the soil on plant growth

There is a link between the type of soil and the type of plant

Materials and Method:

All the notes of the soil are provided through the camera and some devices soil properties are measured annually and they were obtained through digging a hole at a depth of 1 meter by using some digging tools (such as a shovel, drill ...) and we focused on the temperature and moisture of the soil and the atmosphere that rely on vegetation.

We taked the notes during two periods of five days, 12 to 16 February. We were interested to see the difference between each layer of soil layers, so we used the GPS to define a site study of soil properties through the selection of a place that is far away from buildings, because the soil will not be compressed there, and it will be vertical sunlight on the soil. We identified the properties successfully ,and recorded data in the

form for the definition of site study of soil properties



Data summary

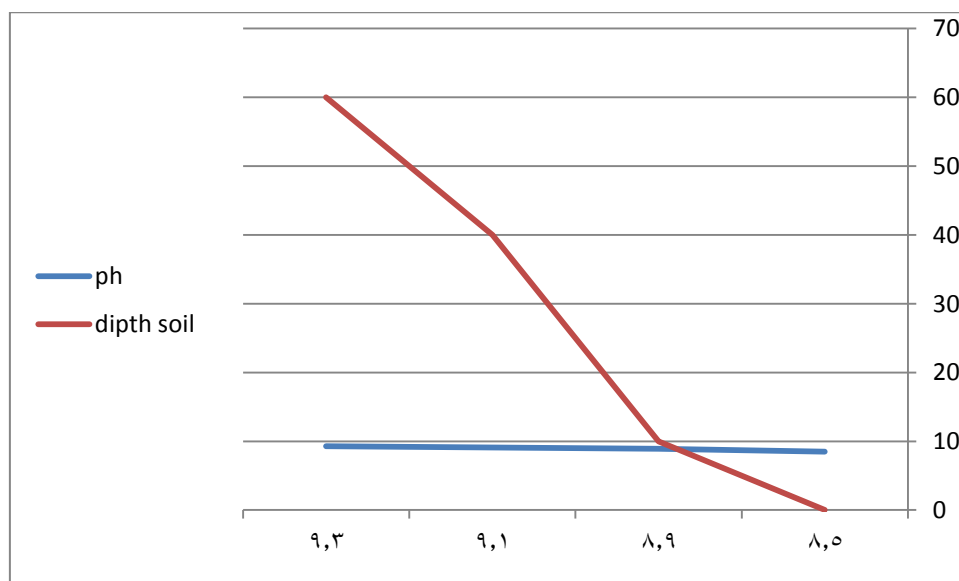
Date Of Soil Collecticm 12-Feb-2016				
Soil Characterization		(1) Horizon 10cm Dipth of Soil	(2) Horizon 40cm Dipth of Soil	(3) Horizon 60cm Dipth of Soil
1	Min color code	10YR 6/1	7.5YR 5/6	7.5YR 6/6
2	Moisture Estimate	Dry	Dry	Dry
3	Structure Estimate	granular	granular	granular
4	Root Qnantity Estimate	Non	Non	Non
5	Rook Qnantity Estimate	Few	Few	Few
6	Carbonates	slight	Strong	Strong
7	PH	8.9	9.1	9.3
8	Texture Field Estimate	Sand	Sand Loam	Sand Loam
9	Consistence Estimate	Friable	Friable	Friable

Texture Field Estimate



Analyse:

According to the result in table 1, we noticed that the soil type and its chemical and physical characteristics play role in the plant growth. Furthermore this soil which is dry and friable is granular .This soil contains different sizes of stones and these stones badly affect the plants and roots growth. In addition ,the ratio of free carbonates in the soil is high because of their interaction with acid and his appearance in the form of bubbles during the experiment.



CONCLUSION:

After gathering and analyzing data, we have come to conclusion, which is: the more the soil is Alkaline, the more absence of plants is caused. And this conclusion emphasizes the validity of the following hypothesis:

1 / chemical properties of the soil affects plant growth

2 / there is a link between the type of the soil and the type of the plants that grow in it .

After research, we have found that the cure of this problem is to add an agricultural gypsum to the soil and then washing the soil with water. and the agricultural gypsum is a water calcium sulphate



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