Name: SAM-SEDI OSHIOLENE PRESLEY

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Title: Isolation of microorganisms from different soil depths.

Aim: To isolate microorganisms and measure the physical and chemical parameters.

Materials: PCA, spirit lamp, beakers,auger, Petri plates,

Thermometer,test tubes, Pipettes.

Procedure: The samples were collected into beakers from three depths.

1. Soil surface

2. 15cm deep

3. 30cm deep

The colour of the soil, nature of the particles, temperature, PH and moisture content was noted.

Soil dilution method/ soil plate method was then carried out.

The agar (Plate Count Agar) was prepared and then left in an autoclave for 15 minutes at
120 degree Celsius. After leaving it out to cool, it was poured into Petri plates to solidify. Five test tubes were arranged in three sections for the different samples and 9ml of distilled water was put into it. The stock (1g of Sample+ distilled water) was mixed together and 1ml of it was put into the first tube. This process was done for each test tube up to the last were a 1ml was discarded.

0.1ml of the solution was taken from the from the third(10^-3)and fifth(10^-5) test tubes for each location and was spread into the Petri plates. The petri plates was kept in an incubator at 35 degree Celsius.

OBSERVATION

The table below describes all observations gotten from thisexperiment.

From the Petri Plates after counting, this was what was observed.

Cfu/ml	Soil surface	15cm	30cm
10-3	24	16	16
10-5	7	6	3
	Soil surface	15cm	30cm
Colour of soil	Slightly dark	Dark	Dark
Nature of particles	Sandy	Sandy	Aggregated
Temperature(Celsius)	32	24	20
PH	Acidic	Acidic	Acidic

The table above gives details on the physical and chemical parameters of the isolated soil.

RESULT

The three different samples show big differences from each other, from the colour to the nature of particles, the temperature changed with the depth.

Colonies were formed in the Petri plates which proved the presence of microbes in the soil.

CONCLUSION

In the process of isolating microorganisms from the soil, there was some setbacks due to unavailable materials. As a result, the moisture content was not observed. Microorganisms play huge roles in soils like in maintaining a good texture, nutrient cycling and availability, water supply, good quality of soils, etc.This practical was a proof that microbes differ from each other and play huge roles in plant growth.