



Soil pH and its Impact on Plant Growth

35. Sumaye

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Introduction:

Various slogans have exposed to the citizens where as the government put emphasize on Agriculture, those slogans are "KILIMO KWANZA" and the project of "BIG RESULT NOW " The question is, Do citizens ;especially farmers know anything about soil pH? It is true that the government work hard to provide farmers with various agricultural tools such as land, certified seeds, ploughs or tractors, fertilizers and even various agricultural seminars. But in most cases the important note is forgotten or left out that note is what is called" SOIL pH" this is very essential for high yield production of crops. We, as Young Scientists will provide this education so as to bring about changes in our society. Therefore, by determining SOIL pH before performing any agricultural activity will help in aiding well plant growth as well as high yield production since "AGRICULTURE IS BACKBONE OF OUR COUNTY"



Method:

In our projects; SOIL pH AND ITS IMPACTS ON PLANT GROWTH we use methods of experiments so as to collect the most efficient and effective data which will be the light to our project. The data were collected through the following ways;

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- i. Documentary sources.
- ii. Observations.
- iii. Surveys.
- iv. Test, measurements and Experimentations.

We went to sokoine university of Agriculture so as to observe on how to measure the pH of the soil. Various machines were used such as pH meter, pH balance, sensitive balance and electrical shaker. These were machines used in one way so as to get the correct soil pH of our soil. Various procedures were used so as to get the pH of the soil. The following are the procedures on how to measure the pH of the soil.



Results:

This scientific fair project is to test the pH found in the soil of our field. This will help us in knowing the range of pH found in our control as well as in adding alkaline or acidic material on the field. As a result after plantation it would be easy to know the reasons which favour poor or good growth of the crops. (Maize and beans)

SURVEYS

In our project, we used also surveys method, whereby use conducted Questionnaires and interview. We used sampling techniques so as to get answer from our question. Various people were involved to answering those questions concerning our project "soil pH and its impacts on plant growth". We took people who aged 20 in order to get best answers from our questions. Not all people know about soil pH but they do not follow the role before planting crops in the farm and also there were no one to educate them. So we got different answer according to the peoples view and others thought there was no need or importance to got that education concerning the soil pH. Since they were high production even they were do not measure the pH of soil.

SAMPLE OF QUESTIONNAIRE
We are students from sumaye secondary school, we are conducting our project "SOIL pH AND ITS IMPACT ON PLANT GROWTH". We are asking for your full cooperation so as to achieve the best information concerning our project. Fill the following gaps

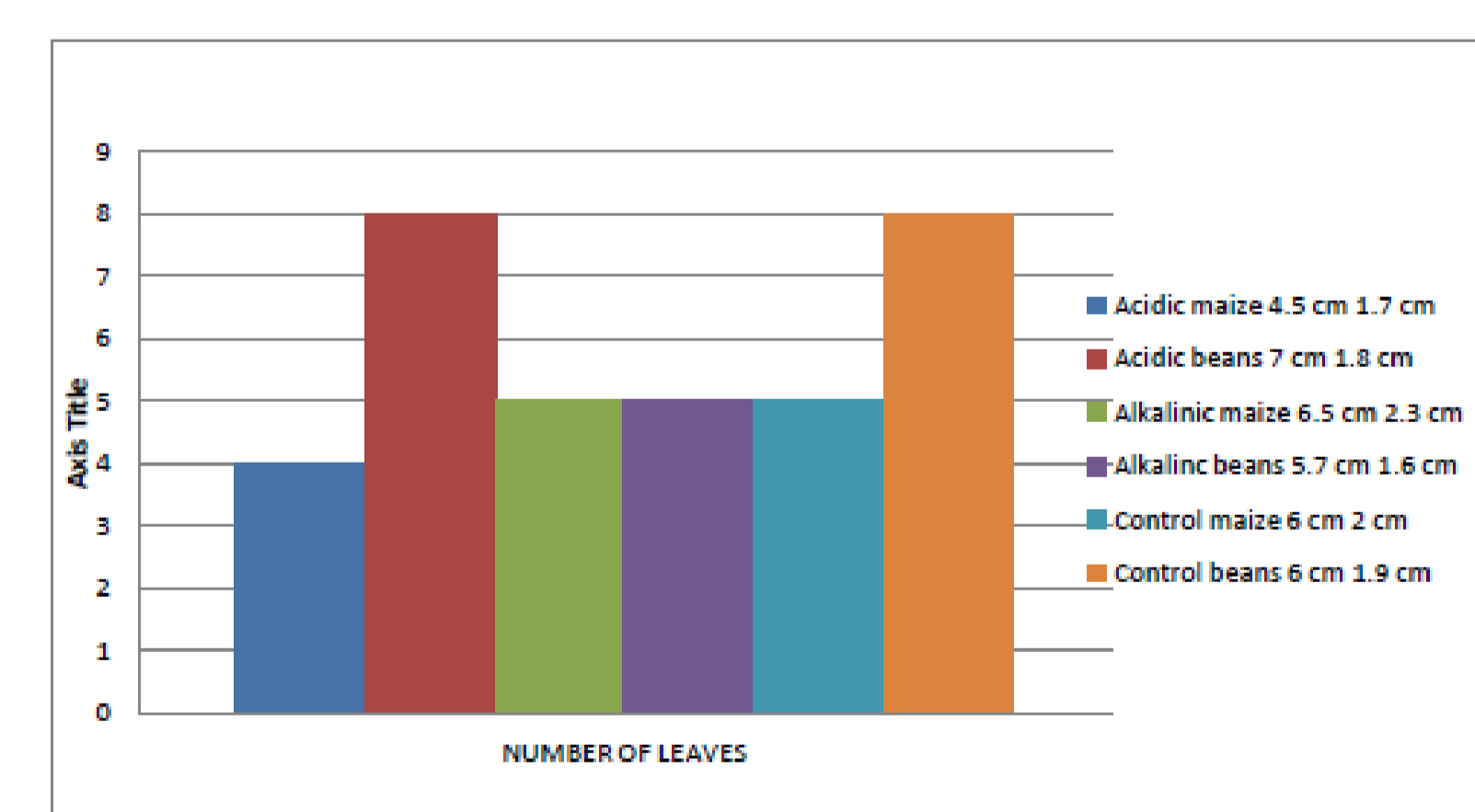
NAME: _____
AGE: _____
SEX: _____
OCCUPATION: _____

PUT TICK () IN AN APPROPRIATE ANSWER ON THE QUESTION ASKED ACCORDING TO YOUR UNDERSTANDING

1. Do you know anything about "soil pH"?
Yes
No
2. What is soil pH?
3. What conditions/requirements do you use to make sure that you get high yield production?
4. Do these requirement/ conditions favor high yield production in your farm?
Yes
No



	ACIDIC SOILS		ALKALINIC SOILS		CONTROL	
	A ₁	A ₂	B ₁	B ₂	C ₁	C ₂
HEIGHT	6cm	8.5cm	7.2cm	6.0cm	8cm	7.9cm
WIDTH	2.0cm	2.6cm	3cm	1.9cm	2.7cm	2.5cm
NUMBER OF LEAVES	5leaves	11leaves	6leaves	8leaves	6leaves	11leaves



Conclusions

For instance maize requires the pH ranging from 6.5 (which is weak acids) to 9.0 (strong base/alkali). From our plots the maize grew well in the control where the (pH was neutral (7.0)) and in alkalinity where the pH was higher. This is because within that range maize can obtain the important nutrients such as Ca and Mg which will aid to its proper growth due to the relationship between the soil pH and thee nutrients availability. Compared to acidic condition where maize became and yellow in appearing, this yellowish is known as chlorites. If deficiency continues leaves turn brown and finally die.

References

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Sibuga K.K, Isegwa I.P (1986) Outlines of soil science. Press and publicity centre, Dar es salaam

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