WAKISSHA JOINT MOCK EXAMINATIONS
SCORING GUIDE
Uganda Certificate of Education
AGRICULTURE 527/2
July/August 2024

Item 1

Aim of the experiment

To find out the PH of the soil samples G & **for tea growing** (A_3)

Hypothesis

Soil sample G has acidic PH while soil sample H has alkaline PH. (H_3)

Variables

Dependent: PH colour change /universal indicator / litmus paper.

Independent: Soil samples G and H

- Volume of water used

Controlled/ Constant: - Time taken
- Amount of soil samples used.
- Amount of indicator.

Apparatus used

- PH indicators
- Droppers
- Water
- Soil sample
- Test tubes / measuring cylinder
- Test tube rock
- Stop clock
- PH scale chart / PH colour chart / litmus paper

(Ap_4 scores)

Procedure

- A known amount of soil sample G were put in the test tube / measuring cylinder
- Less water was added to mix the sample and shaken.
- The test tube was inserted in the test tube rack
- 2-3 drops of PH indicator were put in the soil sample solution
- A few minutes were waited for to observe the colour change of the soil solution.
- Colour observed corresponded with that on the PH scale.
- The procedure was followed for soil sample H.

(P_4 scores)

Results / Data representation

Soil sample	Colour change	PH value
G	Red, pink, orange, yellow	1 – 6
H	Blue, purple, violet, Indigo.	8 – 14

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Explanation/Data analysis
After testing G- appears red indicating acidity while H- appear blue indicating alkalinity
(E4 scores)

Apparatus for Litmus Paper Experiment
- Soil Sample
- Water
- Litmus paper (red and blue)
- Test tube
- Test tube rack
- Barium sulphate

(AP4 score

Apparatus for Litmus Paper Experiment
- A known amount of sample G where put in a test tube.
- Barium sulphate was added to mix the soil sample and shaken.
- The test tube was inserted in the test tube rack.
- Both blue and red litmus papers were dipped in the solution.
- Blue litmus paper turned red while red litmus remained red.
- The procedure was repeated using soil sample H.

(score AP4

Conclusion
The farmer should plant his tea in position where sample G was obtained because tea grows best in acidic soils. (02 scores)

Recommendations for sample H
- Addition of acidic fertilizers e.g sulphate of Ammonia.
- Addition of organic manures eg pine needle to make the soil acidic / to lower the soil PH.
- Acidity agents e.g application of vinegar solution

(R3 scores

Total (31 SCORES

Item 2

Observation

L Maize stalk borer I4
- Dull colour for camouflage.
- Has mandible for bitting and chewing. ST4
- Has legs for movement.
- Has eyes for sight.

M - (APHID)
- Has proboscis for piercing sucking sap. I4
- Has legs for locomotion.
- Has wings for flight / escape.
- Has eyes for sight. ST4
- Has catena for sensing.
- Small size for hiding.

N - (Bean seeds affected by brunchid) I4
- Bean seeds with holes caused by brunchid.
- Powdery substances due to chewing. ST4
- Offensive smell due to rotting.

Control of **L** and **M**

- Use of crop rotation.
- Spraying with recommended pesticides.
- Use of dead seasons.
- Application of ash/ bio pesticides.
- Burning of crop residues.
- Timely planting.

(06 scores)

Control of **N**

- Proper drying of seeds before storage.
- Separate the old stock with the new stock
- Clean the store properly
- Keep in air tight bags.
- Dusting chemicals during storage/seed dressing/ use of organic pesticide.
- Seal off all the crevices in the store.

(CR_3 scores)
Total scores 33

END

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