

EXPECTED RESPONSES
AGRIC 527/2 (PRACTICAL)

INVESTIGATION

ITEM I:

- *Aim of the experiment:*
 - *To find out/determine/ the suitability of the specimens U and V for hatching.*
- *Hypothesis:*
 - *specimens U is suitable for hatching while specimen V is not suitable.*
- *Variables:*
 - *Independent: samples U and V*
 - *dependent: fertility rate / egg candler*
 - *controlled: number of eggs*
- *Materials and equipment's:*
 - *Two eggs U and V, egg Candler, source of light*
- *Procedures:*
 - *Put on a protective gear/PPE*
 - *assemble all the materials needed.*
 - *wash hands and dry with a cloth to avoid dirtening the specimens.*
 - *Get a Candler and connect it to the switch and switch it on.*
 - *Pick specimen U and hold it up the Candler, positioning it so that the light shines through it.*
 - *observe its internal features like veins, embryo and air sac.*
 - *Repeat the same procedures with specimen V since it was not done currently.*
- *Data presentation:*
 - *When specimen U was passed through light in the Candler, its veins, embryo and the air sac were clearly visible.*
 - *When light was passed through specimen V, No visible veins or embryo was not seen*
- *Analysis:*
 - *specimen U has a visible embryo an indication of fertility and specimen V has no visible embryo indicating infertility.*
- *Conclusion: specimens U is suitable for hatching basing on their conditions than specimen V.*

Recommendation:

- *practice good breeding that is providing layers with mature cocks for fertility of egg.*

Item 2- Diagnostic.

a) Identification of specimen A- (*Oxalis latifolia*)

- It has bulbs
- has compound trifoliate leaves
- It has bulbils

- suitability/adaptations of specimen A for its survival.

- It has underground bulbs that store water and nutrients enabling it to survive even in drought.
- It has compound leaves that fold at night/in low light conditions reducing water loss and protect the leaves.
- it has attractive funnel-shaped flowers that guide pollinators toward the reproductive organ.

- control of specimen A.

- deep cultivation to remove all the roots and expose to sun shine to dry
- soil solarization by trapping the sun's heat under a clear plastic tarp to kill its seeds and roots.
- use selective herbicides like dicamba 2,4,5 to control it when it establishes

b) Identification of specimen B- (*Couch grass*)

- Has underground rhizomes/underground stems
- Has narrow leaves with smooth lamina
- Has a round hollow stems

- suitability/adaptations of specimen B for its survival.

- It has effective propagation mechanism by both stolon and rhizomes which can regenerate.
- It has underground rhizomes/stems which allow it to spread quickly and produce new shoot.
- It has narrow leaves which enable it to prevent water loss during hot days.
- It has effective self-dispersal mechanism and by animals.
- produces many seeds for which ensures its propagation.

- control of specimen B

- deep cultivation to remove the rhizomes and exposing them to sun to dry
- spraying with recommended herbicides e.g. dalapon sprays.
- applying thick layers of organic mulches to suppress growth.

c) Identification of specimen C- (*Bidens Pilosa*)

- Has fruits/seeds with hooks
- Has numerous roots
- Has a hairy stem

- Has compound broad leaves with a smooth lamina

- ***suitability/adaptations of specimen C for its survival***

- It has hooks which attach to the animal fur for effective dispersal.
- It has compound leaves for efficient photosynthesis and gaseous exchange.
- It has a hairy stem which reduces water loss and protects against herbivores.
- It can undergo self-pollination in absence of pollinators ensuring seed production even in isolated environments.
- It has aggressive growth habits and produces many viable seeds per season enabling it propagate

- ***control of specimen C***

- Cultivating before flowering stage
- Spraying pre-emergency herbicides like simazine
- Use selective or non-selective herbicides to control established plants.

d).. ***Identification of specimen D-(commelina)***

- Has simple hairy and spirally arranged leaves.
- Has a herbaceous/succulent and creeping/trailing stem.
- Has small blue/white bilaterally symmetrical flowers.
- Has stolon and rhizomes.
- Has adventitious roots at the nodes.

suitability/adaptations of specimen D for its survival.

- It has a flexible, sprawling stem that allows it to colonise new areas quickly.
- It has leaves that are arranged alternately which reduces shading and promoting photosynthesis.
- It has flowers with three petals and two large blue/white sepals which attract pollinators.
- It has effective seed dispersal where the seed capsules bursts scattering seeds enabling it to colonise large areas.
- It has small leaves and stems which reduces water loss enabling it to survive drought.
- It has rhizomes which enable it to spread vegetative.
- It has adventitious roots at the nodes which enhances water and nutrient uptake.

- ***Control of specimen D***

- Hand pulling regularly, making sure to remove as much of the root system from the soil.
- Applying thick layers of organic mulches to suppress seed germination and prevent establishment
- Application of pre-emergency herbicides early to prevent seed germination.
- Using systematic herbicides that can provide long term control by targeting underground tubers.

diagnosticss

- ✓ Put emphasis on milk when guiding learners just incase
- ✓ carry out a trial experiment on the suitability of the milk for human consumption using the litmus papers.
- ✓ guide learners on proper milk handling just incase they bring that milk in the item basing on the conditions of the milk we are asked to prepare.