**THE UNITED REPUBLIC OF TANZANIA**

**NATIONAL EXAMINATIONS COUNCIL**

**ADVANCED CERTIFICATE OF SECONDARY EDUCATION EXAMINATION**

**134/2** **AGRICULTURE 2**

(For Both School and Private Candidates)

**Time : 3 Hours** **ANSWERS** **Year : 2008**

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**Instructions**

1. This paper consists of sections **three (3)** questions.
2. Answer **two (2)** questions.
3. Question one (1) carries **twenty (20)** marks and questions **two (2)** and **three (3)** carries **fifteen (15)** marks each.
4. Non-programable calculators may be used.
5. Cellular phones are **not** allowed in the examination room.
6. Write your **Examination Number** on every page of your answer booklet(s).

**1. You are provided with specimens: W1, W2, W3, and W4.**

(a) (i) Identify specimen W1 and mention its two functions in soil fertility

W1 is Triple Superphosphate (TSP). It provides phosphorus for root development and enhances flowering and fruiting in crops.

(ii) Outline three negative effects of excess use of specimen W2

W2 is Urea fertilizer. Excess use can cause leaf burn, excessive vegetative growth at the expense of fruits, and soil acidification.

(iii) State two advantages of using specimen W3 in crop production

W3 is farmyard manure. It improves soil structure and moisture retention, and provides slow-release nutrients, enhancing long-term soil fertility.

(b) (i) Identify specimen W4

W4 is maize weevil (Sitophilus zeamais), a storage pest.

(ii) State two ways specimen W4 is applied on the farm

Maize weevils are naturally occurring pests; farmers cannot "apply" them but control involves storing maize in sealed containers and using insecticides or fumigants.

(iii) Mention one problem associated with misuse of specimen W4

Improper storage can lead to severe grain loss due to infestation, reducing food security and income.

**2. You are provided with specimens: X1, X2, and X3.**

(a) (i) Identify specimen X1 by its scientific name

X1 is cowpea (Vigna unguiculata).

(ii) Mention one major pest associated with specimen X1 and its mode of attack

The cowpea aphid (Aphis craccivora) attacks by sucking sap from leaves, causing wilting and stunted growth.

(b) (i) Identify specimen X2

X2 is soybean meal.

(ii) State three features of specimen X2 that make it useful in animal feed formulation

It is high in protein, contains essential amino acids, and is easily digestible by livestock.

(c) (i) Identify specimen X3

X3 is the larger grain borer (Prostephanus truncatus).

(ii) Mention three crops commonly affected by specimen X3

Maize, cassava chips, and sorghum grains.

**3. You are provided with specimens: Y1, Y2, Y3, and Y4.**

(a) (i) Identify specimens Y1 and Y2

Y1 is Napier grass (Pennisetum purpureum), Y2 is Lucerne (Medicago sativa).

(ii) Mention three diseases caused by specimen Y3 in livestock

Y3 is ticks (Boophilus spp.), which transmit anaplasmosis, babesiosis, and theileriosis.

(iii) State three control measures against specimen Y3

Regular dipping in acaricides, pasture rotation to break tick cycles, and removing infested animals from herds.

(b) (i) Identify specimen Y4

Y4 is soybean meal.

(ii) Describe its effect on the productivity of dairy animals

Soybean meal increases milk yield and improves milk protein content due to its high-quality protein and essential amino acids.