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 : 2010**

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: T1, T2, T3, and T4.

(a) (i) Identify specimen T1 and state two of its uses

T1 is Urea fertilizer. It is used to supply nitrogen to crops, promoting leafy growth, and to increase overall crop yield by enhancing photosynthesis efficiency.

(ii) List three symptoms of deficiency of the nutrient supplied by specimen T2

T2 supplies potassium. Symptoms of potassium deficiency include yellowing of leaf edges (marginal chlorosis), weak stems leading to lodging, and poor fruit or seed development.

(iii) State two methods of applying specimen T3 in the field

T3 is farmyard manure. It can be applied by broadcasting evenly over the field or incorporated into the soil by plowing before planting to improve soil fertility.

(b) (i) Identify specimen T4

T4 is soybean meal, commonly used as a protein-rich feed for livestock.

(ii) Explain the role of specimen T4 in animal feed formulation

Soybean meal provides essential amino acids for livestock, supporting growth, milk production, and egg-laying capacity in poultry.

(iii) State two disadvantages of overfeeding livestock with specimen T4

Excess soybean meal can cause digestive disorders such as bloating or diarrhea. It may also lead to imbalanced nutrition if other feed components are underrepresented.

2. You are provided with specimens: U1, U2, and U3.

(a) (i) Identify specimen U1 by its botanical name

U1 is cassava, botanically known as Manihot esculenta.

(ii) State one major disease affecting specimen U1 and its vector

Cassava mosaic disease affects U1, transmitted by whiteflies (Bemisia tabaci).

(iii) Mention two control methods for the disease in specimen U1

Control methods include planting resistant cassava varieties and removing infected plants to prevent virus spread.

(b) (i) Identify specimen U2

U2 is cowpea (Vigna unguiculata).

(ii) State three characteristics of specimen U2 that make it suitable for soil improvement

Cowpea fixes atmospheric nitrogen through root nodules, adds organic matter to the soil when residues decompose, and improves soil structure through its root system.

(iii) State one limitation of specimen U2

Cowpea is susceptible to pests like aphids and pod borers, which may reduce its effectiveness in soil enrichment if infestations are severe.

(c) (i) Identify specimen U3

U3 is maize bran, used in livestock feed.

(ii) Explain its role in livestock nutrition

Maize bran provides energy in the form of carbohydrates and fiber, aiding digestion and supporting weight gain in animals.

3. You are provided with specimens: V1, V2, V3, and V4.

(a) (i) Identify each specimen V1, V2, V3, and V4

V1 is Napier grass (Pennisetum purpureum), V2 is a hoe, V3 is a pesticide (e.g., Chlorpyrifos), and V4 is a tick (Boophilus spp.).

(ii) Describe two conditions under which V1 should be used on the farm

Napier grass should be planted on well-drained soils and harvested regularly to maintain high protein content. It is suitable for both cut-and-carry feeding and as a silage crop.

(iii) State three safety precautions when handling specimen V3

Wear gloves and masks to avoid chemical exposure, avoid inhaling sprays, and wash hands thoroughly after use.

(b) (i) Mention two livestock commonly affected by specimen V4

Cattle and goats are commonly affected by ticks.

(ii) Suggest two control measures against specimen V4

Regular dipping in acaricides and pasture management such as burning or cutting grass to reduce tick habitats.