

NAME.....INDEX NO.

SIGNATURE PERSONAL NO:2.....

527/1
Principles Practices of
Agriculture
Theory
Paper 1
July /August 2024
2 hours



**KAYUNGA SECONDARY SCHOOLS EXAMINATIONS COMMITTEE
(KASSEK)
JOINT MOCK EXAMINATION 2024
Uganda Certificate of Education**

PRINCIPLES AND PRACTICES OF AGRICULTURE

Paper 1

(Theory)

2 hours: 30 Minutes

INSTRUCTIONS TO CANDIDATES:

- This paper consists of **two** sections **A** and **B**
- Answer **all** items in Section **A** and **Two** items from section **B** but selecting **one** from each part.

Turn over

SECTION A:
SOIL SCIENCE AND VALUE ADDITION

Answer all items in this section

Item 1

- (a) A group of farmers in Gombe division in Wakiso district decided to grow vegetables due to their high demand. They targeted Nakasero market in Kampala for selling their produce. One day they harvested fresh leafy vegetables from the field and prepared them for sale the following day. They had contacted a lorry driver to transport the produce to the market place but unfortunately the driver did not turn up as expected. This sent the farmers into panic because vegetables are highly perishable. In their attempt to preserve vegetables, the produce started changing colour from green to brown and produced a very unpleasant smell.

Task

Write a message to the farmers advising them on how to preserve vegetables for sale.

- (b) In the same farming community, there are a lot of land conflicts which lead to loss of lives, some farmers cannot manage to buy land individually because it is costly which keeps them out of the farming business. Those who want to use tractors to cultivate land find it difficult due to small plots of land they own. Farmers face a challenge of theft, most of their animals especially poultry, pigs and cattle are stolen during night. They started selling animals cheaply instead of leaving them in the hands of thieves. The little money they earned was kept in lockers inside their houses. Some even do not know how much money they have kept. Pigs started showing signs of worm infestation and the pig farmers were advised to buy dewormers. One packet containing 4 deworming tablets costs Shs. 2,000 and one which contains 10 tablets costs Shs. 3,500.

Task

With reference to the above scenario, what advice would you give to the farmers in Gombe division?

Item 2

Mr. Mukasa decided to grow cassava on five hectares of land. He noticed that some areas of the farm were hilly, poorly drained and had brown soils with low nutrient content. Other areas had low moisture content which could not favour growth of cassava. The pH of the soil was found to be 8 yet cassava requires PH 5.5. Some soils were too compacted and not ideal for growth of the crop. In the process of growing the crop, it was observed that spear grass invaded the garden, plants had poorly developed roots and purple leaves.

Task

Suggest the soil improvements that Mr. Mukasa should have carried out to obtain high cassava yields.

SECTION B
This section has two parts: I and II
PART I: ANIMAL PRODUCTION
Answer one item from this part.

Item 3

Dairy production is a profitable venture which many farmers in Uganda opt to undertake. Ms. Oketch started a dairy enterprise comprising of ten Friesian cattle. To cut down on feeding expenses, she established a pasture land on six-hectare land. She planted elephant grass and green leaf desmodium to feed animals. She enclosed her farm land using barbed wire fence. However, the wooden poles started to rot after a few months and created gaps along the fencing line which led to entry of predators and thieves into the farm. Some poles were observed with sharp pointed ends which caused injuries to the animals. The grazing land was divided into paddocks to facilitate rotational grazing. Some pastures in the grazing land were stunted, started drying up, infested with pests and bare patches were seen in the area. Grazing animals were bonny which scared her. One of the male animals was seen passing out dung containing worms. It was also observed that, male animals were very aggressive and destroyed the fence which made her spend a lot of money to repair the fence.

Animals were congested around the water troughs which would lead to contamination of water. A lactating cow had swollen udder with wounds on the teats. During the rainy season, the farmer harvested a lot of pastures for the animals which led to wastage. She used a bottle to administer oral drugs for animals which caused spillage and wastage of drugs, during lactation period, she harvested 100litres of milk on average from the herd. Hair like substance were observed in milk, some milk was kept in the bucket for some time and developed unpleasant smell. Milk for sale was delivered to market using a milk can but there were few buyers for the milk.

Task

Write a message to Ms. Oketch advising her on how she should manage a dairy enterprise to increase profits.

Item 4

Mukiibi Peter who is a poultry farmer from Ngora district bought 500-day old chicks from Uganda chick and put them in a poultry rearing facility. The chicks were managed under deep litter system. An agriculture extension officer visited his poultry farm and in his report, he indicated that the litter was old and could not absorb poultry droppings, the roof of the poultry house was leaking, light was too much in the poultry house which led to egg eating. Birds were also seen pecking toes and vents of other birds. Rats were seen eating poultry feeds and eggs. The walls of the poultry house developed cracks. Feeds in the feed troughs were contaminated with litter. Some laying birds produced eggs with soft shells which had no market, eggs were collected once a day from the laying nests. He wanted to increase the size of the flock but did not have enough capital. Birds laid smaller number of eggs than what was expected. There were few buyers of eggs which reduced incomes from sale of eggs. The little money he got was used for leisure.

Task

Basing on the report from Agriculture extension worker, how can a poultry farmer improve the productivity of the farm?

PART II: (CROP PRODUCTION)

Answer one item

Item 5

Mr. Gaggwala decided to grow DH 01 maize variety on two hectares of land because it was a high yielding and fast maturing variety. He bought 20kgs of maize seeds from container village in Kampala. He thoroughly prepared the seed bed, dug holes in rows and planted five seeds per hole. Seeds germinated well in some parts of the garden which resulted into congestion. In some parts of the garden, seeds did not germinate which created gaps. Three weeks after planting maize, couch grass, wondering jew and black jack invaded the garden. He also detected holes in the stems of growing maize, the plants developed white stripes parallel to the leaf veins, stunted plants with yellow leaves, and some plants wilted due to water stress. Maize was left to grow and reached maturity, dried while still in the field, later cobs were harvested and spread on tarpaulin for thorough drying. After shelling, the grains were packed in sacks and placed on the floor in the storage facility and started to develop moulds. Some grains were observed with tunnels and powdery substances.

Task

Write a message to Mr. Gaggwala advising him on how obtain high yields from maize enterprise.

Item 6

Tomatoes are raised from the nursery bed before they are transplanted to the main garden. A vegetable farmer planted tomato seeds in the nursery bed and the seeds germinated as expected. At the time of transplanting, the farmer watered the bed using a jerrycan which was held over the seedlings. Seedlings were lifted from the bed using a sharp panga which caused damage to some seedlings. Holes were made in the main garden in lines at a spacing of 10cm x 20cm using a hand hoe and seedlings were placed in the holes. A day after transplanting some seedlings started to dry. A farmer sprayed the plants to control pests using a knapsack sprayer and the chemicals splashed all over his body causing serious injuries. He was also observed eating food during the operation which led to stomach upsets. At the time of flowering single super phosphate fertilizer was applied in the garden that led to scorching of leaves. Some tomato fruits were seen touching the ground, stems of tomato plants bearing many fruits started to break and four plants were elongated and grew searching for light. In the process of moving around the garden he stepped on a sharp nail that resulted into severe bleeding.

Task

As a specialist in the field of agriculture, write a speech you would deliver to help the farmer improve productivity of the tomato enterprises.

END