



EXAMINATIONS COUNCIL OF SWAZILAND
Junior Certificate Examination

AGRICULTURE

516/01

PAPER 2

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Confidential

MARK SCHEME

{516/01}

MARKS: 40

This document consists of **8** printed pages.

Marking Guide Section A

1. A) Producing crops and raising animals on the same farm 1
 b. easier to manage; skills easily mastered 1
 c. fertilizers and pesticides threat to environment 1
 soil pollution; high production costs; interferes with ecosystem 2
2. A. trailer [= 1
 b. reduce friction 1
 c. Evenly distribute the bags on the trailer, secure the bags with ropes, tying them down with a slip knot 2
3. a. spread fungal diseases; poor feathering in birds; irritates mucus membrane; poor hatching 2
 b. carbon dioxide; chloroflorocarbons; nitrous oxide; methane 2
4. a. trifid/paraffin weed/chromoleana odorata/bugweed/wild tobacco/solanum
 mouritanium/lantana camara/mauritisthorn/caesalpina decapetalia/black wattle/acacia mearnsii
 check if the syllabus uses scientific names 2
 b. death of livestock; causes drought
5. a. cut down trees; grass and large weeds; remove stumps and stones; burn remaining plants residues; drain
 Waterlogged soils 3
 b. digs deep enough; turns the soil; digs well in heavy soils
6. a. organic matter 1
 b. provide food for microorganism 1
 c. single grain; crumb; platy; blocky; prismatic columnar 1
7. a. Africa Chicks ; National chicks; Ngwane poultry 1
 b. provide light; warmth/favourable temperature 1
 c. reduce poverty; promote gender equality; provide cash; controls pests and parasites in gardens 2
8. a. food chamber 2
 b. pheromones; dances 2
 c. away from public danger, provide a dense screen vegetation; keep grass short; physical barrier between hive entrance and light source 1
9. a. 1:30 – 40
 b. lower production; poor breeding; death of livestock; poor condition of offspring 2

- c. legislation controls; livestock size; individual's choice of market 1
- 10. a. prevent over-maturity; prevent loss of palatability 2
- b. loss of palatable grasses; appearance of bushes; bare patches; soil erosion 2
- 11. a. cash receipts and payment
- b. social influence; economic influences; political influences; influence of science and technology 2
- c. increase shelf life/ store longer; consumer preferences; promotes increased prices 2
- 12. a. more light more photosynthesis
- b. hydrophytes
- c. temperature; oxygen; soil condition; light; plant growth; viable seed

Marking Guide

SECTION B

Vegetable Production (1)

Introduction example (1)

Vegetables are a good source of minerals and vitamins

Land Reclamation

- ✓ Cut down trees and large weeds using saws, bushknives and slasher
- ✓ Remove stumps and stones using mattocks and spade
- ✓ Burn the remaining plant residue
- ✓ Drain water logged soil using open ditch or perforated drain pipes (4)

Factors considered when selecting suitable varieties

- ✓ Type of soil
- ✓ Resistance to diseases
- ✓ Suitable climate
- ✓ Buyers preference
- ✓ End use of vegetable (3)

Steps for planting vegetables directly

- ✓ Mark out the planting row using string and sticks
- ✓ Determine amount of basal dressing needed
- ✓ Use hoe, trowel or edge of rake to make drill (make drill depth, five times diameter of seed).
- ✓ Spread seeds evenly along the drill, if seed is large plant two seeds at each planting station.
- ✓ Water the row
- ✓ Rake soil over the seed and firm it down (6)

Management practices

- Fertilizer application
 - LAN is commonly used
 - Four to six weeks after planting or transplanting
 - Sprinkle fertilizer 10cm – 15cm away from plant
 - Dig it in lightly take care not to damage roots (4)
- Watering
 - Amount depends on type of vegetable, soil type, weather condition and stage of plant growth.

- Apply two to three watering cans per square metre every four days (2)
- Weeding
 - Remove weeds when they are young before they make seed
 - Remove when young before causing damage to plants
 - Weeds compete with crops for water, light and nutrients
 - Be careful not to damage roots (4)

TOTAL [25]

Indigenous chickens

Importance of indigenous chicken

- Provides family with cheap readily harvestable protein eggs and meat
- Reduce poverty and improve lives of rural women and children
- Promote gender equality, women have control in production and sale
- Give woman access to income and knowledge
- Suitable for female headed families
- High demand for indigenous chicken
- Play role in cultural life of farmers
- Used as gifts
- Can be start up for rearing other livestock
- Given as offerings to appease ancestors
- Feathers used for making special clothes
- Scavengers eat discarded foods
- Control garden pests and parasites
- Cocks as alarm in rural villages
- Provision of manure

Characteristics of a chicken house

- Protect chicken from thieves
- House easy to clean
- Well ventilated
- Have enough space for brooding, roosting and feeding

Feeding chicken

- Chicken are omnivorous, feed on grasses, grains, worms, and insects
- Feed your chicks 4 to 5 weeks old starter mash
- Half fill the feeder to avoid spillage
- Feed grower mash to older birds as it supplies a balanced diet
- Allow chicken to scratch around for snails, grain,
- Give small amounts of yellow maize to increase quality and quantity
- Supplement feeds use mix fowl and rice husks
- Give them left over feeds
- Give them garden left over vegetables

Water

- Make sure water is always available
- Water must be at room temperature
- Clean water
- Change the water twice
- Enough water increases feed intake

General control of diseases and pests

- Add aloe snuff powder in drinking water
- Newcastle vaccine to drinking water
- Sprinkle snuff powder in nests to control external and internal parasites
- Isolate sick chicken

Control of vices

- Remove pecked bird immediately
- Supply birds with balanced diet

RABBITS

Topic (1)

Introduction (1)

Set standards for successful rabbit production

- Five to six litters per year
- An average of six to eight young per litter
- A high survival rate to weaning
- A daily weight gain of about 32g per day
- A feed conversion ratio of 1kg of meat per 3.4kg of feed
- A killing out percentage of between 55 -60 percent (6)

Amount of pellets given to rabbits and their age

- Weaning – 3months adlib
- 3 – 4 months 100g/day
- 4 – 5 months 120g/ day
- Adult 120g/day (4)

Importance of test mating and how it is done

- To find out if a rabbit is pregnant or not
- Take doe to the buck cage 18 days after mating
 - If doe accepts buck she is not pregnant
 - If doe rejects buck she is pregnant (3)

Kindling and preparation for kindling

- Introduce nest box a week before kindling
- Doe pulls fur from her coat to add to bedding (2)

Fostering

- Rub Vicks on foster mothers nose and noses of kittens
- Helps cover smell of parent doe
- It also helps to rub the fur of the foster mother with your hand before moving the kittens
- Done before kittens are 3 days old
- There should be not more than 2 – 3 days difference in age gap, older rabbits may bully young ones (4)

Weaning and how to sex rabbits

- removing young from their mother at 6 – 8 weeks
- Sexing rabbits: hold it on its back
 - Press the rabbits sex organs on either side
 - Male – looks like a circle from which penis stick out
 - Female – looks like a slit (4)

TOTAL [25]

