FORM FOUR CLUSTER KCSE MODEL 2

AGRICULTURE PAPER 2 ANSWER

SECTION A (30 Marks)

1. Name the pig breed which is black with a white belt that enlives the shoulder, including the front legs and has droping ears over the face. (½mks) - Hampshire/wessex saddleback. 2. Define the following terms as used in livestock nutrition

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   (a) Digestibility. (1mk)

   - Digestibility is the portion of food retained in an animal's body after taking care of losses through urine, faces and gases (1x1=1mk)

   (b) Ration. (1mk)

   - Is a combination of mixture of feed fed to livestock to meet their nutrient requirement per day.

3. TWO animal drawn implements. (1mk)

   - Ox-plough.

   - Ox-cart.

   - Ox-tine harrow. (2x½=1mk)

4. FOUR features of a good grain store. (2mks)

   - Leak-proof roof.

   - Easy to clean.

   - Well-ventilated.

   - Vermin-proof/have rat of wards of buffers.

   - Well build for easy loading and off-loading. (4x½=2mks)

5. State the function for each of the following/parts in the chicken digestive system. (1½mks)

   (i) Crop -
   Temporary storage of food
   . - Mixing of food with water. (1x½=1½mk)
   (ii) Proventriculus

   - Digestion of food by pepsin. (1x½=½mk)

   (iii)Gizzard.

   - Grinding food with the help of grit and muscular wall. (1x½=½mks)

6. State FOUR factors to consider when siting farm structures. (2mks)

   - Crutching.
   - Tapping

   . - Raddling.

- Ringing

. - Serving. (3x½=1½mks)

7. FOUR pre-disposing factors of scours. (2mks)

- Unhygienic conditions in the houses of the young ones.

- Poor feeding/over feeding the calf the calf on milk

. - Feeding calves on cold milk

. - Lack of colostrum.

- Feeding at irregular intervals. (4x½=2mks)

8. A reason for clipping needle teeth in piglets. (1mk)

- Minimizes pain/injury during suckling. (1x1=1mk)

9. FOUR factors to consider when siting farm structures. (2mks)

- Location of the homestead.

- Accessibility.

- Farmer's taste and preferences

. - Wind direction.

- Relationship between the structures

- Security.

- Topography of the area.

- Drainage. (4x½=2mks)

10. . Name the most appropriate tool for each of the following operations:

(a) Removing metal chipping in files. (½mks)

- Wire brush.

(b) Cutting wood along the grain. (½mks)

- Ripsaw/back saw

(c) Cutting identification mark on ears of an animal. (½mk)

- Ear notcher. (3x½=1½ mks)

11. 1. FOUR advantages of tractor hire services. (2mks)

- Cheaper than buying one.

- Farmer does not in cur maintenance and operations cost

. - Farmer does not incur risks of owning a tractor.

- Farmer operations are carried out faster. (4x½=2mks)

12. . FOUR factors influencing milk let down in dairy cattle production (2mks)

- Taking the cow to the milking shed.

- Rattling sound of buckets

. - Sight of a milkman/milk woman.

- Sight or smell of food in the trough

- Massaging/washing the udder with warm water.

- Sight of the calf for cows inclined to

- Suckling calves

. - Suckling by the calf. (4x½=2mks)

13. . FOUR materials collected by bees. (2mks)

- Nectar

. - Pollen

. - Propolis.

- Water. (4x½=2mks)

14. THREE reasons for out breeding. (1½mks)

- To introduce new genes in an existing breed herd.

- To exploits heterosis/hybrid vigour.

- To establish a new breed or a grade animals. (3x½=1½mks)

15. 5. FOUR viral diseases in livestock. (2mks)

- Rinderpest.

- Foot and mouth.

- New castle.

- Fowl pox

. - Gumbero.

- African swine fever. (4x½=2mks)

16. . State ONE function of each of the following parts of a male's reproduction system.

(a) Testis. (½mks)

- Produce sperms/male gametes

- Secret male reproductive hormones.

(b) Sperm duct. (½mks)

- Conducts mature sperms from the epididymis to the urethra.

(c) Penis. (½mks)

- Introduce semen into the vagina of the female animal during mating. (3x½=1½mks)

17. . FOUR advantages of natural feeding in calf rearing.

- Calf takes milk at body temperature.

- Milk is free from contamination.

- Prevents scouring in calves.

- Milk is provided adibitum.

- Low labour requirements. (4x½=2mks)

18. FOUR heat signs in rabbits. (2mks)

- Restlessness.

- Frequent urination.

- Swollen vulva

. - Doe throws herself on its side

. - Ribs herself against the wall/objects hutch by peeping through cage walls. (4x½=2mks)

SECTION B (20 Marks)

19. . (a) Identify the parasite. (1mk)

- Tapeworm

. (b) TWO species of livestock the parasite infests. (2mks)

- Cattle

. - Pig. (1x2=2mks)

(c) TWO forms in which the parasite is found in livestock. (2mks)

- Cyst/bladder worm.

- Embryo. (2x1=2mks)

20. (a) Identify the type of bee hive illustrated above. (1mk)

- The Kenya top bar hive. (1x1=1mk)

(b) Name the parts labelled A and B.

A. Top bars. (1mk)

B. Entrance hole. (1mk)

(c) TWO advantages of the above hive compared to other hives. (2mks)

- Easy to inspect.

- Easy to harvest honey

. - No destruction of the broad during harvesting

. - Easy to construct and repair. (2x1=2mks)

SECTION C (40 Marks)

21. (a) Name the part labelled P and Q.

P –Pancreases. (½mks)

Q-Small intestines/ileum. (½mks)

(b) State the function of the part labelled R. (1mk)

- R contains micro- organisms that break down cellulose in the roughage. (1x1=1mk)

(c) THREE ways in which digestion in rabbits differ from that of cattle. (3mks)

- Rabbits do not chew the cud while cattle chew the cud.

- Rabbits have one stomach chamber while cattle have four chambers

. - Rabbits do not regurgitate food while cattle regurgitate food.

22. . (a) The diagrams M, N P and Q represent some farm tools.

(i) Identify tools: -

M…Sickle.

_N….Pruning

- P….wood float.

- Q…Mason's trowel. (4x½=2mks)

(ii) Give the use of each of the tools named above

. M -Harvesting crops i.e. rice, wheat

-Cutting grass; cutting back pyrethrum.

N -Pruning perennial crops e.g. coffee, fruit trees.

P -Level or smoothen concrete and mortar.

-Hold mortar before it is placed in position.

Q -Laying and firming mortar joints of bricks or building stones.

-Applying mortar when plastering. (4x½=2mks)

(iii) TWO maintenance practices that should be carried out on tool M. (1mk)

- Sharpen cutting edge.

- Replace broken handle.

23. . Describe artificial brooding of layer chicks. (20mks)

- Prepare broader 2-3 days before arrival of chicks.

- Ensure the brooder has no corners to prevent overcrowding of chicks.

- Disinfect the brooder, litter and feeders.

- Spread appropriate litter on the broader floor.

- Cover the litter with newspaper.

- Sprinkle some food on the papers when the chicks arrive.

- Put clean water in drinkers and put more food in feeders.

- Feed chicks on chick marsh.

- Provide the right temps in the brooder.

- If charcoal burner is used as a source of heat use a wire guard to prevent chicks from burning.

- Heat the brooder some 12 hrs before arrival of chicks.

- Ensure adequate brooding space throughout the brooding period.

- Ensure the brooder is dimly lit to prevent toe-pecking.

- Provide lukewarm water with glucose on the day chicks arrive.

- Ensure the brooder house is well aerated.

- Keep the litter dry/avoid wetting litter/wet litter should be removed.

- Ensure waterers and feeders are always clean.

- Debeak the chicks to control toe –peaking.

- Carry out relevant vaccinations.

- Provide coccidiostats in drinking water to control coccidiosis.

- Remove and dispose off dead chicks.

- Sick chicks should be isolated and treated appropriately.

- Control external parasites appropriately.

- Deworm the chick's to control internal parasites.

- Introduce grower's marsh gradually from the 7th week
. - Keep proper records on the chicks.

- Chicks should stay in the brooder for 8 wks.

- Ensure the feeders and drinkers are adequate. (20x1=20mks)

24. . (a) Structural requirement of a calf-pen.

(i) Spacious –to allow exercise and placement of equipment

(ii) Singly –to avoid spread of parasites.

(iii) Proper drainage –to prevent dampness which predispose to pneumonia.

(iv) Drought free-to prevent cold winds which predispose to pneumonia.

(v) Leak-proof-to avoid damp conditions/wetness which to predispose to navel, ill, pneumonia.

(vi) Warm and dry to avoid infections.

(vii) Well-ventilated to allow proper circulation in the structure.

(viii) Locable /secure to provide security against predators/thieves. (any 5x2=10mks)

(b) Describe mastitis diseases in dairy cattle under the following sub-headings.

(i) Two causal organisms (2mks)

- Streptococcus.

- Staphylococcus

(ii) Pre-disposing factors.

- Sex-female lacting dairy prone to mastitis.

- Age-older lactating animals more prone.

- Stage of lactation period-majority during early lactation period.

- Mechanical injury –leads to infection.

- Poor milking techniques –destroy sphincter muscles of teats.

- Poor sanitation/hygiene leads to infection.

25. . (a) Factors influencing choice of building materials. (5mks)

- Availability of building materials

- select materials that are locally available to reduce cost of transport

. - Cost of material-use materials that are not very expensive/cheap

. - Durability of materials

-select materials that are long lasting.
- Workability –select materials that are easy to work with/that do not require a lot of labour and a lot of skill.

- Climate/prevailing weather-select materials that are suitable for the climate of the area. - Strength of the material-consider the strength of the material in respect to the use.(5x1=5mks)

(b) Compare the use of animal drawn implement to tractor drawn implement in the farm. (10mks)

Animal drawn implements Tractor drawn implements

-Do not require a lot of skill to operate

-Require considerable level of skill to operate.

-Can be used on steep slopes

-Can only work on fairly level ground

. -Cheaper to purchase and maintain.

-More expensive to purchase and maintain.

-Low work out-put as the animals tire quickly.

-High work output.

-Require a portion of land set side for forage.

-Do not require much space except for storage

. -Animals fall sick and may take long to recover.

-Tractors can be easily fixed in case of mechanical breakdown.

-Animals can cause damage to crops during weeding

. -No damage if operated well.

-Require more labour

. -Require less labour.
-Performance of the animal dependent on weather

-Performance of tractor is independent on weather.

-Suitable for small holdings

. -Suitable for large holdings (10x1=10mks)

(c) Factors ensuring clean milk production.

- Milking equipment should be thoroughly cleaned with disinfected water.
- After milking store the milk properly before taking to the collection centre.
- Ensure the cows are free are free from disease like mastitis.
- Observe high degree of hygiene around the milking shed.
- The milk man should be clean and healthy
- Test the cows for mastitis and ensure infected cows are milked last
. - Filter the milk to keep away impurities.
- Wash the with warm disinfected water. (5x1=5mks)