

**EXAMINATIONS COUNCIL OF  
ESWATINI**

**JC**

**EXAMINATION REPORT**

**FOR**

**AGRICULTURE**

**YEAR**

**2022**

## Table of Contents

<b>Subject Code:</b>	<b>Name of Subject:</b>	<b>Page No:</b>
516	Agriculture P2	3-17
516	Agriculture P3	18-23

### Questions that were accessible to candidates

**Section A:** Questions 1 (a), (b); 2 (c); 4 (a), (b); 5 (a), 6 (a); 8 (a); 10 (i), (ii); 11(a)

#### Section B:

##### Question 1

- Topic
- Groups of nutrients required by the plants and give one example of each
- Two examples of organic and inorganic fertilizer
- Ways of maintaining soil fertility

##### Question 2

- Topic
- Management practices

##### Question 3

- Topic
- Feeding cattle (summer and winter feeding)
- How to control diseases and parasites

### Questions that were challenging to candidates

**Section A:** Questions 1 (c); 2 (a), (b); 3 (a), (b), (c); 5 (b); 6 (b); 7; 8 (b); 9 (a), (b); 11 (b), 12 (a), (b).

#### Section B:

##### Question 1

- Introduction (definition of soil fertility)
- Role of organic and inorganic fertilizer in the soil
- Effects of fresh and old organic matter to plants

##### Question 2

- Relevant topic of the essay
- Introduction (description of bees production)
- Importance of keeping bees
- Mating of bees and egg production
- Advantages of using a Langstroth hive

##### Question 3

- Introduction (importance of cattle management)
- Disbudding and its importance
- Role of castration
- Effects of diseases and parasites

**JC AGRICULTURE**

**Paper 516/02**

**Theory**

JC Agriculture Paper 2 consists of two (2) sections, **SECTION A:** - Structured Questions and **SECTION B:** - Essay questions. This paper contributes 30% of the overall mark.

**General Comments on Paper 2**

The general performance of candidates for Agriculture P2 was poor even though there were extremities as some few candidates scored reasonably high marks (above 60%) and a few scored below 20%. However, most candidates ranged between 20 – 40% which was the average for most centres. Some candidates had challenges with section A of the paper and so was section B especially essays 2 and 3.

In terms of language used it was appropriate and relevant to the grade level of the candidates. The candidates had serious challenges on certain questions to the extent that they left a lot of blank spaces. It seemed like the content had not been covered in the teaching and learning. Such questions included questions 1 (c); 2 (a), (b); 3 (a), (b), (c); 5 (b); 7; 8 (b); 9 (a), (b); 11 (b), 12 (a), (b). There were few candidates with very poor spellings and grammar which made some of the answers provided to be difficult to be understood.

**B. Comments on Specific Questions**

**Section A - Structured Questions**

**Question 1**

**(a) What is crop rotation?**

**Expected responses:**

- Growing different crops in same piece of land each planting season or year after year; planting different vegetables or crops in a sequence.

**Comments**

This question was fairly done by most candidates. Some candidates defined crop rotation as the “planting of different crops” leaving out “the same” and some left out “year after year or season after season”.

**(b) Outline any two benefits of suitable temperature on plant growth.**

**Expected responses:**

- Increased photosynthetic rate/ plant processes;
- Increased germination rate;
- Increase plant growth/ plants grow well;
- Speed up chemical reactions + enzymes

**Comments**

Most candidates did fairly well on this question as they mentioned increment of photosynthesis and germination rate.

**(c) Explain why food production is low in subsistence farming.**

**Expected responses:**

- Little/ no use of commercial inputs e.g. fertilizers;
- Less use of technology e.g. machinery/ less irrigation;
- Scale of production is low just enough for oneself – poor plant growth/ yield

**Comments:**

Most candidates answered this question but were simply describing subsistence farming instead of relating low food production to subsistence farming. It seems like the question was not well understood by the candidates. Common wrong answer provided was the description of subsistence farming as growing for family consumption.

**Question 2**

**(a) State the national policy that controls the import and exports of livestock.**

**Expected response:**

- Livestock movement act/ movement control.

**Comments**

This question was poorly done and quite a sizeable number did not attempt to answer it. Common incorrect responses included: livestock policy and dipping of animals. The candidates seem not to have an idea of the policy.

**(b) Describe the role of a ranch manager.**

**Expected responses:**

- Supervise areas/ establishments that raise livestock for various reasons/ control activities in the farm

**Comments**

This question was poorly answered by the candidates. Most candidates could not determine the role of a ranch manager as they associated it to just a simple worker in a farm. Common wrong responses provided included: to take care of animals, looking after cattle, looking after all animals in the farm, and sending cattle to dipping tanks. The candidates misinterpreted a ranch manager for the work done by a person who inspect or diagnose sick animals.

**(c) Discuss the impact of HIV/AIDS on agricultural productivity.**

**Expected response:**

- Less cultivated land – absenteeism and sickness; loss of labour.
- Less food produced – workers caring for family members; loss of knowledge and skills; sick workers are weak.

**Comments**

The candidates had difficulty in giving correct answers to this question as most of them were stating the importance of vegetables to a sick person instead of relating HIV/AIDS to low productivity. Some even outlined the symptoms of a person who has AIDS. They seem to lack the understanding of the question.

**Question 3**

**(a) Fig. 3.1 is a diagram of an invasive plant**



**Fig. 3.1**

**Name the invasive plant species shown in Fig. 3.1.**

**Expected response:**

- Bug weed/ Wild tobacco/ *Solanum mauritianum*     **Reject: Gwayana**

**Comments**

This question was poorly answered by the candidates. Some candidates wrote siswati names for the invasive plants such as *gwayana*, *sandanezwe*, *bukhwebeletana* which were rejected. Some even mentioned fruit trees such as mango tree, grapes and peaches. More common wrong answers included barweed, wild tobacco weed and witchweed. The most common wrong scientific names were *Lantana camara* and *Chromoleana odorata*.

**(b) Outline any two characteristics of invasive plants.**

**Expected responses:**

- Reproduce/ spread fast or grow fast;
- Reproduce sexually and asexually;
- Disperse over a large area;
- Grow well in a wide range of soils and environmental conditions;
- Use more water from the soil;
- Some are poisonous;
- Difficult to control.

**Comments:**

This question was fairly answered by most candidates. They were able to mention fast growth and difficult to control.

**(c) Suggest two ways in which biodiversity prevents the loss of plant species.**

**Expected responses:**

- Provides a wide range of material and food/ balances the ecosystem;
- Enables organisms to adapt to changes in the environment.

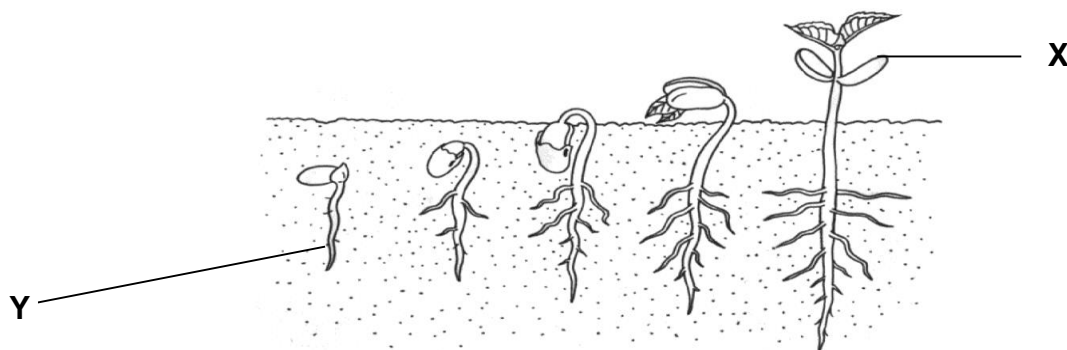
**Comments:**

The candidates performed poorly in this question. Some candidates thought biodiversity is a human being and mentioned that he should prevent the cutting of trees. Some candidates almost repeated

the question as they mentioned that biodiversity should prevent the loss of plant species. Most candidates seemed not have an idea on what biodiversity is and misinterpreted it for deforestation.

**Question 4**

**(a) Fig 4.1 shows stages of bean seed germination.**



**Fig. 4.1**

**(i) Name part X in Fig. 4.1.**

**Expected response:**

- Cotyledon

**Comments:**

This question was generally well answered by most candidates. They stated the correct part but those who did not provided common answers such as plumule, seed, endosperm and the leaves.

**(ii) State the function of part Y in Fig. 4.1.**

**Expected response:**

- Absorbs/ takes in water and plant nutrients
- Develops into the rooting system.

**Comments:**

This question well attempted and answered by most candidates, especially question (i). Most incorrect answers provided by candidates included: for transporting nutrients instead of absorbing, and support plant. Some learners stated the function of X instead of Y.

**(b) Describe the process of seed germination.**

**Expected response:**

- Seed absorbs water/ swell; radicle splits testa/ sprout; new shoot will appear; radicle grows down the soil; plumule develops and push its way through the soil.

**Comments:**

This part of the question was fairly done by most candidates but those who did not do well were simply describing germination instead of describing the germination process. Some even stated the conditions necessary for germination. Some stated that it is a process where the seed changes to a plant in the presence of water, air and heat.

**Question 5**

**(a) Give any two roles of potassium in plants.**

**Expected responses**

- Improves quality of seeds and fruits; increase disease resistance; improves winter hardiness; increase the efficiency of water use; makes stalks/ stem strong; improves grain quality.

**Comments:**

This question was fairly answered as most learners were able to state at least one role of potassium. Common wrong responses provided included: enabling plants to grow well, provide nutrients and makes plants to have dark green colour. Some confused the role of potassium to that of nitrogen and phosphorus.

**(b) Explain how organic fertilizers improve soil structure.**

**Expected responses**

- Contains humus/ decomposed organic matter – binds loose the particles together to form crumbs; separates sticky soil particles

**Comments:**

This question proved to be challenging for most of the candidates and was poorly answered. as they stated the functions of organic fertilizers in general, that is, it provides/ add nutrients, provide food for microorganisms and improve soil fertility. The candidates could not relate organic fertilizer to soil improvement. Some even mentioned how lime improves soil structure.

**Question 6**

**(a) State two methods of administering a vaccine in chickens.**

**Expected responses**

- Through drinking water; injecting through the wing web; through the food; eye drops;

**Accepted: injection**

**Comments:**

This question was well answered by most candidates. The most common responses were through water and food. Those candidates who did not answer the question correctly gave responses such as vaccination, Lasota, and Gumbora.

**(b) Explain how low temperatures affect egg production.**

**Expected responses**

- Feed eaten is converted to energy for warmth/ chickens need extra energy to keep them warm; less feed is used for producing eggs.

**Comments:**

This question was poorly answered by a majority of the candidates. They stated that when it is cold chickens crowd together and do not eat. They mentioned that it causes egg incubation. They stated how the egg is affected by temperatures not egg laying as a factor. Common wrong response included: eggs get spoiled.

**Question 7**

**Discuss the marketing of honey.**

**Expected responses:**

- Harvesting – done at the right time; Processing – extract honey and sieve to improve quality;
- Packaging – use transparent bottles/ labeling;
- Advertising – let customers know about the products/ labeling;
- Pricing – giving value to the honey;
- Grading – separate according to quality;
- Selling – convince customers to buy the honey; Storage – making the products available all year round.

**Comments:**

This question was poorly done by candidates. Most candidates saw marketing as only putting something on the billboards, social media but not stating the marketing functions in relation to honey production. Some candidates just mentioned the marketing operations without discussing them.



**Question 8**

**(a) Give any two social importance of cattle.**

**Expected response**

- Wealth/ cattle sold for cash;
- Eswatini ceremonies/ dowry payment; honour distinguished guests.
- sacred purposes/ rituals/ honouring ancestors;
- draft animals

**Comments:**

This question was well answered but some candidates simply stated the general importance of cattle disregarding the social aspect. Common wrong responses included: provision of meat and milk.

**(b) Explain the importance of health records in cattle production.**

**Expected response**

- For marketing purposes; for breeding purposes; to know the health condition of the livestock; assist in planning for pest and diseases; to know the vaccination programme.

**Comments:**

This question was poorly answered as the candidates wrote answers which were out of context of the question. Some even mentioned the importance of general records such as profit and loss, not specifying it to health records. Some candidates mixed up performance records with health records.

**Question 9**

**(a) Explain any one disadvantage of breeding old nannies.**

**Expected responses**

- Their teeth lose condition/ cannot feed well - produce underdeveloped kids; cannot produce enough milk;
- Their body may not carry the young one;
- Experience dystokia

**Comments:**

This question was poorly answered by most candidates. Most candidates listed the advantages of breeding old nannies. Candidates were against the breeding of old nannies as they indicated that they cannot breed at all. The learners seemed not to know what nannies are as they related their responses to rabbitry.

**(b) Suggest any two importance of processing goat's milk.**

**Expected responses:**

- To add value to the product/ to increase its market value/ more income or money or export;
- Increase shelf life/ to last longer;
- To improve taste;
- Makes it attractive/ no fur.

**Comments:**

This part of the question had an very average performance from candidates. Some candidates confused the question with the importance of keeping goats. The most correct response provided was that of making it last longer. Common incorrect responses included: provision of tender meat, removal of fur, and making the goats breed more.

### Question 10

**Discuss how each management practice improves the pasture.**

**(i) Liming**

**Expected responses:**

- Corrects soil pH/ reduce soil acidity - promote nutrient absorption/ add nutrients.

**Comments:**

A fair performance by candidates was noted in most centres. A few of them stated that liming improves soil structure. The most common provided response was the addition of nutrients to the soil. Some candidates only stated the effect of lime in the soil without discussing it in relation to improving the pasture.

**(ii) Correct stocking rate.**

**Expected responses:**

- Allows grasses to regrow - good coverage of grass/ no bare patches;
- No or minimal erosion in the pasture.

**Comments:**

This question was fairly answered by most candidates, but they could not discuss how it improves the condition of the pasture.

### Question 11

**(a) Explain the environmental importance of agro-forestry.**

**Expected responses:**

- Prevent soil erosion – act as windbreakers/ by reducing runoff/ roots bind the soil particles;
- Maintain biological activities (balance ecosystem) – provides organic matter which provides food for microorganisms;
- Efficient use of nutrients – through nutrient cycling and nitrogen fixing;
- Reduce greenhouse gases – trees trap carbon dioxide/ release oxygen for habitants.

**Comments:**

This question was fairly attempted and performed by most candidates. Some candidates did not understand what is agro-forestry. Most common correct responses were: the prevention of soil erosion and efficient use of nutrients. Common incorrect responses included: provision of firewood and improving soil fertility.

**(b) Explain the importance of pruning fruit trees.**

**Expected responses:**

- Remove unproductive plant parts - improve fruit quality;
- To control plant growth;
- For new shoots development;
- New branches for more fruits/ more fruits.

**Comments:**

There was a very poor performance by most candidates in most centres. Instead of explaining the importance of pruning, they simply described pruning. Common incorrect responses included: to make profit and to make the trees not to die easily and even to produce more sweet fruits.

### Question 12

**(a) Describe the decision-making process in farm business.**

**Expected responses:**

- Decision-making is a process whereby the farmer considers the available facts to make a plan to reach his or her goals.

**Comments:**

This question proved to be challenging for most candidates. Most candidates stated that it is making a decision. Some candidates left the question unanswered.

**(b) Explain any one requirement for decision-making in farm business.**

**Expected responses:**

- All activities for implementing the decision are well organized;
- The farmer must be able to implement the decision;
- All the factors of production necessary for the implementation must be available (capital, labour, land, time);
- The farmer must stay calm, even in difficult situation;
- Planning.

**Comments**

This question was poorly answered. Most candidates stated the marketing operations. Candidates did not understand the decision-making.

## SECTION B: Essay Questions

Candidates answered any **two** questions from this section.

### Question 1

**Describe soil fertility and its maintenance. Use the points given below as a guide:**

- Relevant topic of the essay
- Introduction (definition of soil fertility)
- Groups of nutrients required by the plants and give one example of each.
- Role of organic and inorganic fertilizer in the soil
- Two examples of organic and inorganic fertilizer
- Effects of fresh and old organic matter to plants
- Ways of maintaining soil fertility

#### Topic:

#### Expected response:

- Soil Fertility; Soil fertility and its maintenance; maintaining soil fertility.

#### Comment:

This part of the question was well answered by most candidates as they included soil fertility in the essay topic.

#### Introduction:

#### Expected response:

- Is the ability of soil to provide nutrients required for healthy plants.

#### Comment:

This section of the question proved to be challenge to most candidates. Some candidates defined soil fertility as when the soil has many nutrients.

#### Groups of nutrients needed by plants

#### Expected responses:

- Major/ macro nutrients - nitrogen; phosphorus; potassium; (magnesium, calcium, sulphur - *accepted*)
- Minor/ micro nutrients - zinc; boron; molybdenum; chlorine; copper; iron; manganese.

#### Comment:

This part of the question was accessible as most candidates provided the different groups of nutrients but commonly mentioned nitrogen as one of the examples. This section of the essay was well attempted. There was a challenge on the example of the minor nutrients.

#### Role of organic matter and inorganic fertilizer

#### Expected responses:

- **Organic:** add nutrients into the soil/ improve soil fertility; bind soil particles - thus improving the structure.
- **Inorganic:** add nutrients onto the soil/ improve soil fertility

#### Comment:

This part of the essay was a challenge to most candidates as they could not differentiate between organic and inorganic fertilizer. The most commonly correct response provided was the addition of nutrients.

#### Examples of organic and inorganic fertilizer

#### Expected responses:

- Organic: Compost; kraal manure; green manure

- Inorganic: 2:3:2 (22) + 0.5% Zinc; 2:3:2 (37); 2:3:2 (38); Limestone ammonium nitrate; super phosphate; muriate of potash; urea

**Comment:**

Most candidates answered this part of the essay correctly as they gave examples of organic fertilizer. With inorganic fertilizer, they provided mostly the compound fertilizers with only a few stating Limestone Ammonium Nitrate. Some candidates named the nutrients without mentioning the groups e.g. NPK and Zn were commonly stated. Some who stated the compound fertilizers gave incorrect numbers such as 2:2:3 (37), 3:3:4 (22).

**Effects of fresh and old organic matter**

**Expected responses:**

- Fresh organic matter - burn the plant; easy transfer of diseases; nutrients not readily available.
- Old organic matter - has less nutrients.

**Comment:**

This section of the essay was poorly answered by most candidates. They could not describe the effects of both fresh and old organic matter. Some did not attempt this section. The few that got marks out of the section indicated that old organic matter has less nutrients.

**Ways of improving the soil fertility**

**Expected responses:**

- Add organic matter which decompose and provides nutrients;
- Control weeds which compete for nutrients;
- Control soil erosion which wash away the nutrients;
- Add lime which improves nutrient uptake;
- Rotate crops and include a legume;
- Minimize drainage/leaching which result in nutrient loss;
- Add fertilizer;
- Green manuring;
- Add earthworms;
- Maintain good soil structure/ grass

**Comment:**

Most candidates who attempted the question did well on this section of the essay. The most mentioned correct answers provided by the candidates included: addition of fertilizer, addition of organic matter, crop rotation, and green manuring. Common incorrect responses included: not ploughing up and down the slope to avoid soil erosion and not adding too much fertilizer.

**General Comments on Essay**

Candidates performed poorly on this essay. Most responses from candidates indicated less emphasis on soil fertility.

**Question 2**

**Describe bee keeping for high honey production. Use the points given below as a**

**Guide:**

- Relevant topic of the essay
- Introduction (description of bees production)
- Importance of keeping bees
- Mating of bees and egg production
- Advantages of using a Langstroth hive
- Management practices

### **Topic of the essay**

#### **Expected responses:**

- Bee keeping; Honey production; Apiculture; Bee management; Keeping bees for honey production.  
**Bee production.**

#### **Comments:**

This part of the question was poorly answered by most candidates as they could not comprehend the essay topic. One common topic written was 'honey production'.

### **Introduction (description of bees production)**

#### **Expected responses:**

- Are flying social insects that collect pollen; and produce wax/ and honey.

#### **Comments:**

This part of the question was poorly answered by the candidates. Only a few candidates stated that bees are flying social insects that collect pollen and produce honey. Some mentioned that they are just insects.

### **Importance of keeping bees**

#### **Expected responses:**

- Income generation;
- Pollination;
- Improve health/ medication/ apitherapy/ propolis/ royal gel;
- Entertainment;
- Stress relief;
- Education;
- Maintain biodiversity;
- Wax for making ornaments;

#### **Comments:**

This part of the question was poorly done by most candidates; however some candidates gave income generation and pollination.

### **Mating of bees and egg production**

#### **Expected responses:**

- Virgin queen enters drone congregation site/ site for mating
- She releases a pheromone/ chemical
- Mates with 15 to 20 drones in the air
- Stores enough spermatozoa received during mating
- Spermatozoa fertilizes hundreds of thousand eggs
- Queen lays eggs with female workers or queens only

#### **Comments:**

This part of the question was poorly answered by the candidates. Most of the candidates stated the queen flying up to the mating sites for mating only. Only a few indicated the production of pheromones.

### **Advantages of using a Langstroth hive**

#### **Expected responses:**

- Easy to transport without comb damage
- More honey of high quality collected
- Harvesting is simple and convenient/ easy to harvest
- Can introduce wax foundation to start comb building
- Easy to inspect

**Comments:**

Most candidates did not do well on this part of the essay, however some candidates mentioned easy transportation and easy to inspect. Most candidates did not understand what Langstroth hive is as some did not attempt the question and others gave weird responses.

**Management practices**

**Expected responses:**

- Hive inspection – check condition of queen, pests and diseases, honey production
- Feeding – sugar syrup, pollen
- Pest and disease control – high hygiene
- Harvesting
- Record keeping
- Swarming prevention
- Inspection of queen
- Colony splitting
- Protection from fire
- Provision of drinking water; uniting colonies/ catching swarms
- Introducing a queen

**Comments**

This part of the question was fairly answered by most candidates. Common correct responses included feeding, checking the condition of queen, harvesting, and record keeping. Some candidates concentrated only on the safety precautions. Common incorrect responses included not near busy places, not under trees, 500m away from neighbours, and have all tools needed.

**General Comment on Essay**

The overall performance on the essay by the candidates was poor. The performance showed that the candidates were not exposed to practicals on bee keeping in their respective schools. They had challenges in describing bees' production, importance of keeping bees, management and egg production, and advantages of using a Langstroth hive.

**Question 3**

**Describe the management practices of cattle. Use the points given below as a guide:**

- Relevant topic of the essay
- Introduction (importance of cattle management)
- Feeding cattle (summer and winter feeding)
- Disbudding and its importance
- Role of castration
- Effects of diseases and parasites
- How to control diseases and parasites

**Topic of the essay**

**Expected responses:**

- Management of cattle; cattle management; raising cattle; cattle farming; cattle production

**Comments:**

This part of the question was fairly answered as the candidates' provided answers that were acceptable.

**Introduction (importance of cattle management)**

**Expected responses:**

- For good production/ high profit.

**Comments:**

This part of the question was poorly done by the candidates. Most candidates gave an incorrect introduction. They had a problem in consolidating the different sub-topics to come up with the correct topic.

**Feeding cattle (summer and winter feeding)**

**Expected responses:**

- Summer - they feed on green grass.
- Winter – they feed on dry grass/ foggage; poor grass needs supplementary feeding such as hay, silage, concentrates, salt licks.

**Comments:**

This part of the question was fairly answered. Very few mentioned supplementary feeding.

**Disbudding and its importance**

**Expected responses:**

- Removal of horns/ buds that were to develop into horns from livestock - prevent injury or dead of other livestock; make handling easy.

**Comments:**

This part of the question was poorly answered by most candidates. Most responses were for identification and castration. Those who described disbudding correctly had difficulty stating the reasons for disbudding.

**Role of castration**

**Expected responses:**

- Prevent unwanted mating;
- Prevent inbreeding;
- Control breeding;
- Promote growth or muscling/ improve quality;
- Castrated livestock easy to handle than bulls.

**Comments:**

This part of the question had a poor performance from candidates. Only a few candidates mentioned the correct roles of castration. Most candidates confused castration with identification.

**Effects of diseases and parasites**

**Expected responses:**

- Loss of livestock;
- Drop in production/ weight loss or poor condition;
- Can cause infertility/ miscarriage; transmit/ cause diseases;
- Affect quality of the hide;
- Causes irritation;
- Financial drain.

**Comments:**

This part of the question was poorly answered by most candidates with a very few candidates mentioning loss/ death of livestock as their correct response. Some mentioned common diseases and parasites that affect cattle and how these are controlled. The diseases included mastitis, black quarter, and foot and mouth diseases.

**How to control diseases and parasites**

**Expected responses:**

- Dipping the animal on a regular basis to control ticks and other external diseases and parasites;
- Practice rotational grazing;



- Livestock must not graze in infested areas;
- Burn or bury livestock killed by an infectious disease;
- Movement control;
- Quarantine;
- Blood smears;
- Cordon line;
- Practice good hygiene;
- Vaccination;
- Treat infected animals;
- Burning pastures;
- Healthy food/ enough;
- Deworming

**Comments:**

Most candidates performed fairly well in this part of the question. Most candidates mention at least five of the control measures. The most common correct responses included: vaccination, dipping of animals, burying livestock died of infectious diseases, and eating healthy food.

**General Comments on Essay**

The overall performance was very poor with the candidates having difficulty differentiating between disbudding and castration. They could not state the effects of diseases and parasites.

**Comments on the question paper**

Very few candidates had challenges of time management as they completed all the sections of the paper thus the allocated time of 1 hour 45 minutes was adequate for writing this paper. A majority of the candidates attempted all the questions as per the instructions. It was observed that some candidates did not attempt some questions at all especially in Section A and only a few candidates answered only one essay question in section B.

**Advice to Agriculture teachers**

- Ensure that all topics of the syllabus are taught.
- Teachers must guide candidates on answering high order questions e.g. discussing, describing and explaining questions as the candidates take these to mean one thing and usually answer in the same format.
- Emphasis should be made on the usage of technical terms used in agriculture.
- Engage candidates in practicals on all topics that require practicals to make it easy for them when answering practical questions.
- Teachers are encouraged to use Examination Reports as they teach their candidates in order to note areas where they need to improve on.

**Paper 516/03****Practicals****Introduction**

Paper 3 is continuous assessment of the candidates' practical work compiled by the teacher, the teacher who is responsible for allocating marks is required to submit the complete schedule of all marks for the purpose of moderation. The total marks available for the assessment of the practical project over the 3-year course is 100. There are two practical projects worth 60 marks and two written reports based on the practical worth 40 marks.

**General comments**

Teachers generally show good understanding on the practicals submitted, there was a great improvement on the type and quality of work submitted. Where most centres submitted 2 practicals as expected i.e. one on vegetables or crops and the other on livestock. There was an exception of very few schools though that submitted short term practicals instead of long term practicals. Teachers are advised to design quality practicals.

**Teachers file**

A majority of centres were able to submit the teacher's files with all the expected contents.

Contents of the teachers file:

- Blank practicals
- Mark guides for written work
- Diaries for each practical
- Mark schemes

Very few centres had no teacher's file.

Some teacher's files were lacking details inside. centres are advised to present files with all contents inside.

**Registers**

Most centres which had their registers submitted were marked correctly, with both columns ticked. Few centres however only had a challenge in completing the register correctly. Some centres marked sampled students on the present column of the register. Other centres did not have the page totals written. Some centres had students appearing on the register and not in the summary sheets. Registers and summary sheets should have same number of candidates. All details on the register have to be filled then signed and must have a date. centres are reminded that they should keep the copy of the register and send the original.

**Sampling**

Some centres sampled correctly according to expectations. Teachers were able to submit all three categories or a whole mark range: top students, moderate and low ranking students. The highest and lowest students should be part of the sample. Some centres sampled incorrectly, some only sampled top bracket only. It was also noted that some centres submitted work that is not sampled.

The sampling procedure should be as follows:

1 - 10 candidates (all files)

11 – 50 candidates (10 files)

51 – 100 candidates (15 files)

101 and above (20 files)

Sampled candidates should be shown on the summary sheet with an asterisk.

**NB. centres are advised to pack sampled files according to the order of the register.**

### **MS 1 Form**

Most centres submitted the MS 1 form and correctly filled. Some centres though did not submit the MS 1 form claiming that they were not delivered in schools. Some centres had the forms and filled them but had some information missing, such as shading marks without writing marks. Very few centres would shade M but at the same time have a mark shaded. A number of challenges were noted this year, which included MS1 forms being shaded but no mark entered. Some were punched, fastened with staplers and some written in ink. Teachers are advised to avoid doing the above. Some centres shaded the form but the corresponding mark being different. Some centres had missing students entered by hand on the MS1. centres are encouraged to use supplementary forms to enter students that missing in the form. The MS1 marks should be similar to those in the summary sheet.

### **Summary Sheets**

A majority of the centres submitted well written summary sheets. Some centres had submitted their summary sheet but were incomplete with blank spaces on both practicals and guided reports. Very few centres that had decimals on their marks. We still had some centres having marks higher than the total e.g. 61 over 60. centres are advised to have covering letters for the absent candidates as per the expectations. These letters should bear a school stamp. centres are advised to staple summary sheets together especially those with a large number of candidates. All necessary information should be filled in the summary sheet e.g. Centre name and code, teachers name and contacts, the summary sheets should have the school stamp. centres are also advised to use summary sheets provided by ECESWA. Summary sheets should be filled using a pen and candidates' names should appear as in the register. Note: centres that have students that dropped out for whatsoever reason should give their form 1 and 2 marks, these should be accompanied by a covering letter.

### **Student Cards**

Most centres filled and provided students cards that were correctly filled. Most centres had the practical activities arranged according to the arrangement of the practicals in the student's cards. However, some centres did not arrange their practical activities in the correct order. The correct order being Vegetable Production or Field Crops and Livestock Production. Some centres submitted all the student cards instead of the sampled ones. The title of practicals in the student card should be similar to that on the practical. Some centres still enter marks with decimals, which is not allowed.

### **PRACTICAL SKILLS**

There in an increase in centres submitting SGCSE practicals in JC, this was treated as plagiarism. centres are advised to design and improve their own practicals. Some centres still continue to have their practicals as short term e.g., killing and dressing a rabbit, instead of long term as per the requirements of the syllabus.

**TOPIC**

It is expected that all practical activities should have a topic that is relevant to the practical skill evaluated. The topic should be short and clear within the enterprises in the syllabus. The topic that appears on the assessment instrument must be the same as the one on the student card. Some centres had topics that were not specific to the enterprise e.g. Vegetable Production which could fit every vegetable. Some topics were not corresponding with what is written in the practical inside.

**Instructions**

The expectation is that the instructions must be brief and precise. They should cover the entire duration of the practical. Observations are to the effect that some centres had their instructions for short term practicals. Some had too many instructions and very few had no instructions at all.

**Materials**

It is expected that tools, equipment and inputs be relevant to the practical activity. Most centres had materials properly written in their practicals.

**Tasks**

Most centres were able to select practical tasks across the enterprise they had selected. Example in vegetable production, tasks were selected from preparation, planting, management and harvesting. Some centres though had tasks taken from one part of the enterprise. The tasks should be specific to the enterprise.

**Criteria**

Most centres had followed the well written format of the criteria, i.e., is Responsibility, Initiative, Technique, Perseverance and Quality. Few centres had criteria jumbled, for example starting with Initiative or ending with Perseverance. This resulted in some criteria being omitted in the process. Each criterion should start on a new page. It is preferred that the criteria are not typed back to back. Few centres had their criterion overlap to other pages.

**Descriptors**

Descriptors must be distributed across the enterprise under each criterion, the descriptors should be specific to the enterprise. The number of descriptors must also be the same within and across the criteria. There was slight improvement from last year. There was some improvement in the construction of the responsibility descriptors and perseverance. Challenges were noted in the construction of initiative, Technique and Quality. Very few centres still use the examples in the syllabus. Some centres had their descriptors too general and not clear. Some centres were using descriptors copied from the EGCSE ECESWA practicals.

**Scaling**

The expected scaling should be 5/4; 3/2; and 1/0 differentiating the three levels under each criterion in their own column. The columns of the instrument should be as follows. Descriptors, Scale, Mark allocated and Teachers comment.

Descriptors	Scale	Mark allocated	Teacher's comment
	5/4		
	3/2		
	1/0		

Most centres had the correct scaling. There were only a few centres that had a scaling of 4/5, 3/2 and 0/1 which is wrong.

## Teacher's comments

Teachers are expected to comment on marks obtained by candidates per criterion to justify the marks awarded. Still very few centres give appropriate comments. Most teachers made general comment on the marks awarded such as good, excellent, and poor.

## Packaging

### (a) Student files

These should have the following materials arranged in this order:

- Student cards for practical
- Student cards for guided write up
- Practical exercises in this order vegetables or Crops and Livestock
- Guided write up also arranged in the same order
- Evidence i.e., Diaries, pictures and written work.
- Teachers are urged to use Indian treasure tags not metal paper fasteners

It is recommended that all work for a pupil is placed in one file i.e. practicals and write-ups.

### (b) Examination Packaging

centres are expected to write the following items under CONTENTS ENCLOSED. 1. Attendance register; 2. Summary sheet; 3. Quantity of sampled students' files; 4. Teachers file and 5. MS1 form.

There should be one teacher's file even in centres where there are more than one teacher for that level.

## Evidence

Evidence in the form of diaries, production records written work and photos are ideal to a practical exercise. Most centres submitted diaries and written work as evidence. Very few centres did not submit any evidence at all. centres are encouraged to submit evidence in the form of diaries and or pictures. Teachers are encouraged to maintain original diaries as opposed to transferring of notes from original to new diaries for the purpose of submission to ECESWA.

## Guided write-up report

### Title

The report should bear a clear title. This should appear on the first page, together with the name of the candidate and name of Centre. Most centres had specific topics and relevant to the enterprise, but some still have general topics thus are encouraged to have specific titles to the enterprise stating the vegetable or crop and livestock. A few centres had titles that are not in line with the practical undertaken.

### Introduction

The introduction is expected to be about 5 lines, which should include the importance of the enterprise, the nutritional value, economic importance and the origin. Sometimes may be a brief description of the enterprise. Most centres had the introduction relevant to the topic and its depth was relevant to the level of the candidates. Few centres though had very long Introductions which were of higher level than the candidates. The structure of the introductions should be that for form three not form five. Introductions should just give an outline.

### Objectives

These should be specific based on the purpose of doing the enterprise or practical. centres should have only four objectives that are specific to the enterprise. The objectives should be SMART (specific, measurable, attainable, realistic and time bound). Only a few students were able to write specific and

measurable objectives. We still have centres that write objectives that compare two variables. Some centres had less than four objectives.

### **Materials Used**

It is expected that candidates list inputs, tools and equipment used during the practical. Some centres listed only tools and implements as they appear in the textbooks. We still have centres that miss out the main input of the enterprise. e.g., on livestock enterprise centres fail to write rabbits, layers or chicks. It is recommended that candidates explain the functions or uses of the tools, equipment, and inputs. These should be explaining how they were used in the practical. Some centres had general inputs such as fertilizer instead of LAN. All materials used for the enterprise must be indicated.

### **Preparations**

These are activities done prior to management e.g. activities done until planting/ transplanting or receiving livestock. These activities must appear in sequence i.e. in the order of occurrence. candidates should give a report on how they had done the activities. Most centres had their preparations in order. Some centres management practices in the preparation, while some gave instructions as preparations. Candidates should report on activities done not as the activities appear in the book. Very few centres still did not understand how far they have to write on preparations. centres are advised to write the preparations stage in a reported speech. centres are advised to be updated with the syllabus to be able to stick to the requirements of the syllabus. The preparations must be written in subtopics e.g., land clearing, land preparation etc.

### **Management**

These are things done while the enterprise is in progress. Some centres listed preparations under management. These must be written in clear sub-headed points. Some centres still copy activities as they appear in the book instead of reporting on that they did in the practical. Most centres presented management activities properly. The report should include the timing on which the management activities were done. It is recommended that teachers should guide the learners on answering these questions what, when, how and why. Teachers are advised to guide students when discussing the management activities under the different subheadings.

### **Presentation**

The presentation should be done as per objective, data must have a brief explanation below. There is no improvement with regards to the presentation from the different centres. Some centres still presented tables with no explanations, some had tables, linear graphs and bar graphs for the same objective. Some centres presented data that did not match any objective. Some had their presentation in statement form. Some few centres still presented diaries as their presentation, tables and graphs without headings. centres are encouraged to present tables and graphs as per the objectives.

### **Conclusion**

The conclusion should inform on the outcome of the practical exercise per objective, summary of the results, problems and solutions. Most centres identified the problems and had solutions. Also, most centres had their conclusions based on the objectives and results. Some concluded by giving a general comment on the enterprise without addressing the objectives. There were a few centres that concluded by writing down problems and solutions encountered in the enterprise. Some also had conclusion without data to draw the conclusion from. A few centres did not have conclusions. and others misplaced the problems and solutions just after the introduction.

## General Comments

- Some centres were bringing same practicals as the previous year, teachers are encouraged to revisit their practical in order to improve on them.
- Some teachers are new in the programme thus must seek help from the Examinations Council of Eswatini, the inspectorate and colleagues.
- Candidates should be guided through all the stages of the report (guided). All the sections of the report should be covered.
- Some centres had their practicals and reports awarded very high marks e.g., 100%. Teachers are advised to improve their practical and reports to align with the marks allocated.
- Marks awarded to students should follow a normal distribution curve.
- During filing some papers were misplaced, teachers are urged to be careful when filling. The student cards must appear first (practical's first then reports), followed by two practicals and then two reports.
- Teachers are advised to keep the guided report at the level of the candidates other than high level investigatory project.
- Some centres type their work which is good practice. Teachers should ensure that during typing, the originality of the work is maintained.
- The student's work must be marked, and the marked scripts should be submitted.
- The report should follow the order of vegetables or field crop and livestock and should be arranged as per the candidate's card.
- Teachers are advised to use summary sheets from ECESWA, other than regenerating their own summary sheets. as some students end up being missed out.
- Teachers are advised to encourage candidates to start writing doing practicals earlier to avoid being caught off guard by ECESWA deadlines.
- centres are advised to start writing their reports in form one, so to avoid candidates getting zeros.