



EXAMINATIONS COUNCIL OF ESWATINI
Eswatini Primary Certificate Education

Agriculture (516)
Examination Report for 2023

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SECTION A: Multiple Choice

Most challenging questions

6, 10, 16 and 17

Question 6. Which is the best way to support disturbed remaining seedlings after thinning?

Expected response: option C (to put soil around the stem)

Comment: some of the candidates selected option B which was to put grass around the seedling

Question 10. What is the name of the pest which damages the leaves and developing fruits?

Expected response: option A (American ball worm)

Comment: This question had a variety of responses which means candidates were guessing

Question 16. Which of the following is a component of the soil?

Expected response: option D (water)

Comment: there were varied responses from the candidates which showed a misconception of the term component

Question 17. What is the name given to a sign of soil erosion where a small channel has formed on the soil surface?

Expected response: option D (rill)

Comment: in this item the candidates had varied wrong responses which exposed a sign of guessing.

Questions which were easily accessible

2, 7, 8, 13 and 14

Question 2. What is modern farming?

Expected response: Option C (producing large amounts of food over a short time)

Question 7. When is fertilizer applied to vegetables?

Expected response: Option A (before planting and during growth)

Question 8. Which management practice is demonstrated in **Fig 8.1**?

Expected response: Option B (mulching)

Question 13. Which crop is planted using the material in **Fig 13.1**?

Expected response: option D (sweet potatoes)

Question 14. Which plant part absorb nutrients and water?

Expected response: option C (root hairs)

SECTION B: Simple Responses

1. (a) Define agriculture

Expected response: Agriculture is the science of farming, it involves cultivating plants and rearing animals to provide food and other products

Comment: generally well answered question, candidates were able to give the correct definition of agriculture

(b) Explain any **two disadvantages of traditional farming**

Expected responses -farm land is small

- uses donkeys and oxen
- depend on rainfall
- produce for feeding family only

Comment: this question was poorly answered as a majority of candidates were unable to select among the characteristics as to which ones are disadvantages.

2. (a) Describe land tenure

Expected responses: It is the conditions under which people are allocated land in a country

Comments: the performance in this question was far below average. Candidates were giving characteristics of TDL and SNL instead of defining land tenure

(b) State any two advantages of using the Swazi Nation Land (SNL)

Expected responses: farmers can occupy large land

- farmers can get large grazing land

- land can be passed from one generation to another
- descendants can occupy land for a long time
- cheap to acquire land
- farmers do not pay rates/rent

Comment: candidates performed well in this question as they were able to state the advantage of using SNL

(c) Explain the term landlord in the land tenure system

Expected responses: a person who owns the land and rent/lease it someone else

Comment: the performance in this question was far below average. A majority of candidates defined land tenure, landlocked, tenant

3. (a) State any two reasons why people produced hybrid seeds

Expected responses: - they mature early

- resist certain diseases
- grow well even if there is no enough rainfall

Comment: this question was not well answered. Candidates mentioned responses such as to get food, they have more nutrients, some mentioned hybrid animals

(b) Outline any **one** safety precaution followed when handling farm tools

Expected responses: use tools for their proper job

- inspect hand tools for rust and damages
- wear protective clothing
- do not use hand tools when you have taken medicine or when feeling dizzy

Comment: this question was well answered by a majority of candidates however some candidates mentioned wrong responses such as taking care of tools

(c) Describe the uses of the following equipment in agriculture

(i) Tractor-drawn plough

Expected responses: ploughing / cultivation

Comment: the performance in this question was poor as most candidates mention that it is used for removing weeds

(ii) Automatic feeder

Expected responses: feeding animals

Comment: candidates in this question performed well

4. (a) Outline the roles of the following activities in land preparation

(i) Cultivation:

Expected responses: - bury weeds

- to make land ready for planting
- to clear crop residues

Comment: this question was poorly answered, candidates stated that it is used to make planting easily

(ii) Harrowing

Expected responses: - for water to soak easily

- roots to spread easily
- for roots to take up nutrients
- breaking large clods

Comment : performance in this question was far below average. Candidates mentioned the use instead of role

(b) Explain why a seedbed is watered a few hours before transplanting

Expected responses - easy to take up plants / transplanting

- not to damage or disturb roots

Comment : the performance in this question was average. Candidates were able to give the correct responses however some candidate described transplanting

(c) Explain how the presence of livestock in a farm can improve vegetable production

Expected responses: to get manure to give plants nutrients

Comment: this question was well answered. Candidates showed a better understanding of the importance in a farm

5. (a) State the benefits of a good soil in vegetable production

Expected responses - easy to work

- drains water easily
- promote air circulation
- allows plants to absorb nutrients
- equal balance of air and water
- does not erode easily

Comment: this question was well answered. Candidate were able to give correct responses

(b) State **two** types of windbreakers for a vegetable garden

Expected responses - trees

- hedge
- shrubs

Comment: the performance in this question was average. Candidates had did not give enough examples of windbreakers

(c) Explain any **one** disadvantages of having a garden in a slopy land.

Expected responses – soil will be washed away

- nutrients will be lost

Comment: a well answered question

6. (a) Describe any **one** importance of record keeping in a farm

Expected responses: - used for reference purposes

- help us to remember methods / techniques used
- helps to calculate profit/loss
- helps to remember when events occurred

Comment: a well answered question by a majority of the candidates

(b) A farmer had a broiler business. Sort the given information in the table below

100 chickens bought at E900.00, 2 bags starter mash at E260.00 each, 3 bags grower mash at E280.00 each, 3 bags finisher at 300.00, 95 broilers sold at E70.00 each.

Financial Record					
Income	E	C	Expenses	E	C
Sold 95 broilers at E70.00	6650	00	100 chicks bought at 900	900	00
			2 bags of starter at E260 each	520	00
			3 bags of grower at E280 each	840	00
			3 bags of finisher at E300	900	00
Total income	6650	00	Total expenditure	3160	00

(c) Calculate the profit/loss?

E 6650.00

- E 3160.00

E 3490.00 profit

Comment: a generally well answered question by a majority of candidates. Candidates were able to sort expenses and income however they could not calculate the profit/loss.

7. (a) Describe crop rotation

Expected responses: planting different crops one after another in the same piece of land

Comment: this question was fairly answered, but some candidates defined intercropping

(b) State **two** regions where sweet potatoes can grow best

Expected responses - Middleveld; Lowveld.

Comment: this question was performed far below average as candidates were giving administrative regions like Hhoho, manzini

(c) Explain why beans are included in a crop rotation

Expected responses: they add nitrogen into the soil

Comment: the performance of candidates was moderate. Some candidates were able to state the importance of beans on the soil however some mentioned their nutritional value to the farmer

8. (a) Fig 8.1 shows a vegetable pest

Name the pest indicated in Fig 8.1

Expected responses CMR beetle

Comment: a poorly answered question as a majority of the candidates confused the pest with aphids.

(b) State two reasons for weeding a vegetable garden

Expected responses - weeds compete with vegetables for water, sunlight and nutrients; weeds can hide pests that can damage the plants; weeds can make harvesting difficult

Comment: a well answered question by a majority of the candidates.

(c) Describe the following terms

(i) Pesticide

Expected responses: a pesticide is a chemical used to kill pests

Comment: the performance of candidates in the question was average however some candidates defined pest instead of pesticide

(ii) Disease

Expected responses: a disease is an illness/sickness that affect plants and animals

Comment: this question was well answered by a majority of the candidates.

9. (a) State any two methods of harvesting maize

Expected responses - stalk cutting; plucking off; combine harvester

Comment: the performance in this question was average however some candidate stated the signs for readiness for harvesting

(b) State any two problems of harvesting when it is raining

Expected responses - crops may develop mould

- crops may rot

- crops may germinate

- machinery can be trapped

Comments: this question was fairly answered, but some candidate mentioned the effect of rain on the farmer than on the produce

(c) Explain how beans are harvested

Expected responses: picking the pods by hand

Comment: this question was fairly answered however some candidates mentioned the signs of maturity

10. Fig 10.1 shows different types of mushrooms

(a) Name the types of mushrooms indicated in Fig. 10.1

Expected responses:

(i) oyster

(ii) white button

Comment: a well answered question, however some candidates interchanged the names of oyster for white button and vise-vesa

(b) Describe three safety precautions followed when growing mushrooms

Expected responses: - only essential people must enter the cropping house

- people who suffer from asthma and chest illnesses must not enter the cropping house
- there should be good ventilation
- workers must be upwind from the truck delivering the compost

Comments: performance in this question was above average

11(a) Outline three things which make the summer season suitable for growing crops

Expected responses: - enough rainfall

- enough warmth
- enough sunlight

Comment: the performance in this question was average, but some candidate mentioned general observations like livestock no longer roam around

(b) Explain why it is important to cover the fertilizer with soil before planting

Expected responses: - avoid evaporation

- promote quick absorption of nutrients
- avoid burning the seeds/plant

Comment: this question was fairly answered, but some candidate mentioned the functions of fertilizer

12. (a) State **two** things required by green plants in the presence of light to make food?

Expected responses: water; carbon dioxide

Comment: the performance in this question was average but some candidate mentioned chlorophyll and air

(b) Explain the importance of nutrients in plant growth

Expected responses

- help plant to grow well
- give plant leaves a dark green colour
- promote the growth of the roots, seeds and fruit
- help plant to resist diseases
- make the plant strong and healthy

Comment: a well answered question by a majority of the candidates

(c) Explain the symbiotic relationship between plants, people and animals.

Expected responses: plants give people and animals oxygen and people and animals give plants carbon dioxide

Comment: the performance in this question was average however some candidates mentioned general responses such as plants need each other to survive

13. (a) Describe soil texture

Expected responses: feeling of the soil when rubbed in between the fingers

Comment: the performance in this question was good

(b) State any **two** advantages of growing vegetables on A horizon.

Expected responses: - the top layer of the soil holds more organic matter

- the soil holds more living organisms

- it is crumbly therefore plants roots spread easily and air circulate easily

Comment: this question was well answered

(c) Explain any **one** negative effect of growing crops in a clay soil.

Expected responses:

- clay particles soft, small and stick together tightly and does not allow plants roots to absorb nutrients
- clay soil holds water for a long time
- clay soil does not have an equal balance of air and water

Comment: this question was well answered

14. (a) State any one disadvantage of flood irrigation on the soil.

Expected responses: it can cause soil erosion

- causes water logging
- causes soil capping

Comment: this question was well answered

(b) Explain **two** ways of preventing soil erosion in a field during cultivation

Expected responses: ploughing across the slopes

- avoid cultivating steep slopes
- improve soil structure
- encourage water drainage
- leaves contour bands

Comment: the performance in this question was average, however some candidate mentioned other ways of preventing soil erosion during plant growth instead of during cultivation part

15. (a) State any **three** importance of indigenous chickens

Expected responses: cultural importance (rituals, goodwill gifts, ceremonies)

- economic importance (easy to raise, source of income)
- health importance (food, nutritious)

Comment: this question was well answered

(b) Explain how chicken litter can be kept dry

Expected responses: by forking the litter once or twice a week

Comment: this question was well answered

Paper 616/02
COURSE-WORK

INTRODUCTION

Paper 2 is a continuous assessment of the candidate's 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 two-year course are 100. There is one practical project worth 60 marks and one written report based on the project worth 40 marks.

GENERAL COMMENTS

In 2023, the overall performance indicates a significant decline as compared to 2022. Agriculture teachers are encourage to follow the syllabus to ensure optimal performance and good standards in accordance with the expectations of the Examinations Council of Eswatini.

PART 1

PRACTICAL SKILLS

MODERATION

- Individual Candidate Record Cards and Coursework Assessment Summary Forms were provided by Examination Council of Eswatini (ECESWA). The Forms were to be submitted to ECESWA by the official deadline, along with a representative sample of work and a teacher's file with the instructions for the practical work and the schemes of assessment.
- Each candidate's work was expected to be submitted in a presentable folder file with the following information written outside: **centre number, centre name, candidate's number, candidate's name, project title.**

It has been noted that some centers are still struggling to sample correctly. They submit all candidates' files, and all candidates' record cards which is not as per the requirement.

Number of candidates	Number of files
1-10	All
11-50	10
51-100	15
101 and above	20

TEACHER'S FILE

The following is expected to be in the teacher's file:

- Diary for the practical/ teacher's diary for practical tasks carried out which will assist in moderation
- Descriptors for practical tasks carried out
- Register
- Summary sheet
- Lozenges

Most centers submitted teacher's files with all expected content on time. However, some centers did not submit the teacher's file, some centers submitted the files with missing contents e.g., without descriptors, register or lozenges.

REGISTERS

It is expected that teachers should mark the registers correctly, mark candidates who appear in the summary sheet, candidates who are absent, the total per page and signature at the end of the page. Duplicate should be kept by the center.

A few centers marked the register correctly whilst a majority of the centres did not mark it correctly e.g. omitting the page totals: not marking the register at all. Some centres did not submit the register at all.

MS1/ MARK SHEET (LOZENGES)

Teachers are expected to mark and submit marks for practical skills and guided write-up. The total mark is supposed to be recorded and shaded in the lozenges. Lozenges are only written in pencil **not** ink.

It was noted that a majority of the centres submitted the mark sheets, and a few did not submit them. Some of the submitted mark sheets had missing information. e.g., candidate marks. Others were filled using ink, instead of a pencil, punched or stapled. Some centres entered the marks but did not shade or vice versa. Teachers are requested to make reference to the instructions provided at the back of the mark sheet.

SAMPLING

Teachers at the centres were expected to sample three categories: top students, moderate and low performing students. They were also expected to indicate with asterisk (*) the sampled candidates. The packaging of files was expected to be according to the candidates' scores ratings. The top candidate's mark at the top and the lowest candidate's mark at the bottom.

There is an increasing trend of incorrect addition of totals from column A and B in the summary sheet. It was noted that candidates were awarded marks above the totals (40 or 60). A majority of the centres sampled correctly according to expectation. Some centres sampled incorrectly or did not sample at all. They either submitted all the candidate's' practical work or the number of sample files were more or less than the expected samples.

SUMMARY SHEET

Teachers are expected to mark candidate's practical skills and guided write up and then record the marks in the records cards for each candidate. Teachers are urged to record marks as whole numbers i.e., round-off decimal numbers to whole numbers and to indicate sampled candidates by asterisk (*)

All centres submitted well written summary sheets. However, some of the centres submitted summary sheets with decimals, missing marks without any covering note or explanation.

INDIVIDUAL RECORD CARDS

For every candidate, teachers are expected to place the candidate record card on top of each work, e.g., record card on top of practical skills, record card on top of guided write up.

A majority of the centres submitted well recorded cards, with the practical's written in chronological order. Some of the centres had the cards placed at the back of the file. Few centres had cards with wrong calculations, loose cards or cards in teacher files, cards for all candidates at the centre instead of sampled candidate's card, cards in separate envelopes and in exercise book covers instead of folder files. Teachers are encouraged to write the topic of the project in which the candidates are assessed, under the topic "brief description of practical" (e.g., maize production, cabbage production, broiler production etc.).

PRACTICALS

Choosing a practical task: most centres were able to select practical tasks from different areas of the syllabus. Examples: vegetables production, crop production, broiler production and mushroom production.

Criteria: A majority of the centres had followed the correct format of the level of descriptors. Fewer centres had the level of descriptors mixed up. For example, starting with initiative instead of responsibility. This resulted in some level or categories being omitted in the process.

Descriptors: A majority of the centres had properly designed descriptors. Few centres had descriptors which were not specific (general), similar in all practicals. There was also a variation in the number of descriptors within a practical and within a category. In some categories there were 5, 4, or 3 descriptors. Some centres failed to formulate descriptors that meet the required standard for level 1/0 (more assistance level). The use of "do not", "fails to" and "never" was common in most centres which did not perform well in this level. This creates an impression that there were some candidates who were not allowed to be part of the practical exercise even if they wanted to. Examples of terms that can be used in this level when formulating the descriptors are; forced to; under strict supervision; need full assistance etc.

Almost all the centres submitted candidates file with descriptors on time. A few centres did not submit on time. Teachers are also reminded to avoid using the same descriptors for different vegetables e.g., using onion descriptors for spinach.

SCALING

A majority of the centres had correct scaling, for example.

- 5/4 5 or 4 5 – 4
- 3/2 3 or 2 3 - 2
- 1/0 1 or 0 1 - 0

A few centres had incorrect scaling, they used fractions and improper scaling for example. e.g., 5.2, 5 dived by 4, 4/5 etc.

TEACHER'S REMARKS

A majority of the centres had teachers' remarks on the marks allocated to candidates, which is a very good practice by all centres. However, a few centres did not make remarks as expected. They awarded the marks only. Teachers are encouraged to make their own remarks in relation to performance of the candidates.

EVIDENCE

Evidence in the form of production records/harvest records and diaries are ideal to a practical exercise. Written task should be attached as a form of evidence if it has been used as an assessment in the descriptors. A majority of the centres submitted diaries as evidence. Very few centres did not submit any evidence. Therefore, centres are encouraged to submit evidence in especially diaries.

PACKAGING

Paper folders should be used with string fastens. Plastic folders and binding is **not** encouraged. The teachers file and the sampled candidates' files should be packed together in the same/one ECESWA envelope, not in different or separate ECESWA envelopes. Each sampled candidate should have only one file having the practical and the write up packed together. Please note that these should not be packed in separate files. In the teachers file, there should be all the content as stated earlier and in the examination syllabus. Some centres submitted teachers' files without descriptors for practical's carried in their respective schools.

PART 2

GUIDED WRITE- UP REPORT

Title of the practical

Centres are encouraged to link the write up with the practical carried out, for example if the practical was on spinach, the write up should also be on spinach production. The report should have a clear title. This should appear on the first page, together with the name of the candidate and the name of the centre. All the centres managed to clearly write the project title.

Introduction

Candidates should introduce the chosen project based on the information from the syllabus. The majority of the centres were able to write the appropriate introduction.

Objectives

Objectives are expected to be specific. The objectives carried 4 marks; therefore, candidates were expected to list 2 relevant objectives for them to obtain full marks. Almost all centres were able to list 2 relevant objectives. Fewer centres listed general and unrealistic objectives.

Materials used

Candidates were expected to list inputs, tools, and equipment. This part carried 4 marks. A majority of the centres listed all the tools, equipment and inputs, although some of the centres did not list the main inputs such as seedlings, seeds, chicks, litter, etc.

Preparations

For crops & vegetables, discussion of activities in land preparation is expected to be in its chronological order, prior to the management stage. The preparation stage carries 8 marks, therefore candidates were expected to cover all related activities with brief discussion. For example, what tools were used, why certain activities were done. All steps/activities prior commencement of project were well covered.

Primary preparation-land clearing

Secondary preparation: cultivation, marking out plots (compliant to rule 3, 4, 5 and marking of base line was an added advantage).

- making fine tilt, adding manure.
- planting - basal fertilizer, spacing, shading.

Most centres performed exceptionally well under this category (preparations stage). Almost all candidates scored marks above average, notable, planting and transplanting activities. Candidates should be guided accordingly to discuss planting and transplanting activities under preparations practices, not management practices.

Preparations (Poultry production)

This part is expected to be written in sub-topic approach where a detailed preparation is shown (explain clearly how the practical was carried out). All preparations done before or on arrival of the chicks/birds. The preparation stage carries a weight of 8 marks; therefore, candidates were expected to cover all related activities.

All steps and activities involved e.g.

- Before arrival preparation.
- Cleaning and disinfection of the poultry house two weeks before arrival.
- Making necessary repairs of the poultry house.
- Checking the state of the drinkers and feeders and marking necessary repairs
- Washing and disinfection of feeders and waterers
- Provide brooder for temperature regulation
- Putting drinkers and waterers on position
- On arrival preparation;
- Put feed on feeders and water in waterers
- Give stress pack
- Preparing a foot bath.

Most centres performed exceptionally well under the preparations stage. The candidate's work was well presented, clearly marked sub- topics. Almost all the candidates scored marks above average.

Management Activities

This is a description of how the project was done stating the activities carried out. The management activity. This stage carries 10 marks, therefore candidates were expected to cover all related activities e.g.

- Describe how management was done from planting to harvesting.
- Explain how activities were done from arrival until livestock was ready for sale. A majority of the centres performed above average.

Presentation of enterprise records - yield of crops; livestock. These stage carries a weight of 10 marks, therefore candidates were expected to cover all related activities. The records should include the following:

- Diary
- Harvest/production record: some candidates did not have production records at all.
- Financial record should include costs/expenditure and income/returns, profit/loss. This stage recorded a decline in performance. A majority of centres were not able to score marks above average. It was noted from the candidate's diaries were frequently assessed.

Conclusion

This stage carries 4 marks, therefore candidates were expected to cover all related activities. The conclusions should include the following:

- **Achievements**- Explain if any of the two specific initial objectives of the practical activity were met.
- **Problems/challenges encountered**- candidates were expected to state what challenges were faced while carrying out their practical.
- **Relevant solutions**- candidates should indicate ways or strategies used to curb the challenges they faced and mentioned above.

Recommendations are an added advantage. Performance in conclusion rated above average. A majority of the centres were able to state specific objectives and problems encountered. Some

centres were able to state solutions put in place and other relevant recommendations. Some of the centres stated either objectives were met, or problems encountered without full details.

Recommendations for improvement

- Teachers are encouraged to guide candidates by allowing them to independently write the report as they will express themselves the way they understood and carried out the project.
- Teachers should avoid writing the write up on the board since this then reflects on the individuals work that the pupils have presented.
- Teachers are requested to comply with submission dates as there will be no submission allowed after the due date.
- Teachers are urged to consider the expectation from ECESWA, read the examiners' reports from the previous year and consult for improvement.