THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

NATIONAL EXAMINATIONS COUNCIL OF TANZANIA

STUDENTS' ITEM RESPONSE ANALYSIS REPORT ON THE FORM TWO NATIONAL ASSESSMENT (FTNA) 2025

AGRICULTURE AND FOOD PROCESSING (VOCATIONAL STREAM)

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FOREWORD

The National Examinations Council of Tanzania (NECTA) prepared this report on the performance of students who sat for the 2025 Form Two National Assessment in Agriculture field subjects in vocational stream: Animal Health and Production, Horticultural Production and Field Crop Production. These subjects play a vital role in equipping learners with agricultural knowledge, attitudes and practical skills essential for sustainable agricultural development and improved livelihoods in Tanzania.

The assessment measured students' mastery of theoretical knowledge, attitude and applied skills as outlined in the respective syllabi. Particular emphasis was placed on the integration of theory and practice. This report aims to provide constructive feedback on students' performance to education stakeholders, particularly, teachers and students.

The analysis of students' performance in the 2025 assessment indicates generally good performance in the Agriculture vocational subjects and weak performance in the general Agriculture subject. Good performance is mainly attributed to students' adequate understanding of the assessed competencies, correct interpretation of assessment questions and tasks, good practical skills and the ability to relate theoretical knowledge to practical agricultural activities.

Nevertheless, the analysis reveals that some students achieved average or low scores due to limited understanding of certain concepts, inadequate practical exposure, poor interpretation of questions and weaknesses in structuring responses.

The report provides a competence-based analysis for each subject and identifies common strengths and weaknesses observed in selected assessment items. Although most competencies recorded commendable performance, a few showed relatively low achievement, indicating the need for targeted pedagogical improvement.

NECTA is confident that the findings and recommendations presented in this report will support education stakeholders in strengthening instructional strategies, thereby ensuring that learners acquire the intended knowledge, skills and values in Agriculture and related vocational subjects.

Prof. Said Ally Mohamed
EXECUTIVE SECRETARY

1.0 INTRODUCTION

The Form Two National Assessment (FTNA) conducted in 2025 in Agriculture and related vocational subjects was administered by the National Examinations Council of Tanzania (NECTA) in accordance with the approved syllabi and assessment formats. These subjects are of strategic importance in equipping learners with foundational agricultural knowledge, practical competencies and applied skills that are essential for sustainable agricultural development, food security and improved livelihoods in Tanzania.

The 2025 assessment was designed to evaluate students' mastery of theoretical concepts, practical skills and the ability to apply learned knowledge to real-life agricultural situations as stipulated in the respective syllabi. Particular emphasis was placed on assessing the integration of theory and practice, especially in areas related to crop production, animal husbandry, horticultural practices and general agricultural operations. The assessment therefore aimed not only at measuring cognitive achievement, but also at determining learners' readiness to apply agricultural competencies in practical and productive contexts.

Following the administration of the assessment, students' responses, including practical performance levels, were assessed in accordance with NECTA regulations and established quality assurance procedures to ensure fairness, validity and reliability of the results. The performance data generated from this process formed the basis of the analysis presented in this report. The analysis focuses on students' attainment of key competencies, their interpretation of assessment questions and tasks, practical performance and the overall quality of responses provided.

This report presents an analysis of students' performance in each subject, highlighting areas of strength and weakness as observed in selected assessment items and practical tasks.

The subsequent sections of this report present student registration and attendance, an analysis of assessment results, an analysis of students' performance across competencies and questions, as well as the conclusion and recommendations.

2.0 REGISTRATION AND ATTENDANCE OF STUDENTS

Students who sat for the 2025 Form Two National Assessment (FTNA) in Agriculture and the related vocational subjects were duly registered in accordance with NECTA regulations and procedures. The registration process covered students from both public and private secondary schools offering these subjects nationwide. Registered students were categorised according to subject and sex to enable effective monitoring and analysis of participation patterns.

Agriculture is a compulsory subject for students pursuing Agriculture vocational subjects. Accordingly, students registered for Agriculture vocational subjects were assessed in the theoretical component of the Agriculture subject and in both the theoretical and practical components of their respective vocational subjects, in accordance with the prescribed assessment formats.

The registration and attendance data formed an important basis for analysing performance trends and ensuring that the assessment outcomes accurately reflected students' attainment of the intended competencies in Agriculture and the related vocational subjects. Table 1 indicates students' registration and attendance.

Table 1: Students' Registration and Attendance in the 2025 FTNA by Subjects

S/N	Subject Code and Name	Registered	Sat			Absent
			Females	Males	Total	
1.	034 Agriculture	389	227	141	368	21
2.	403 Animal Health and Production	158	90	61	151	7
3.	404 Horticultural Production	100	69	24	93	7
4.	405 Field Crop Production	131	68	56	124	7

Table 1 presents the number of students registered, those who sat for the assessment and those who were absent in the 2025 Form Two National

Assessment (FTNA) by subject. Overall, the majority of registered students sat for the assessment as scheduled. This indicates adequate preparedness of students for the assessment.

3.0 ANALYSIS OF ASSESSMENT RESULTS IN EACH SUBJECT

The analysis of assessment results was conducted using the established grading scale, as shown in Table 2, where the minimum pass grade is D.

Table 2: Grading Scale

Marks (%)	Grade	Remarks
75 -100	A	Excellent
65 -74	B	Very good
45 - 64	C	Good
30 - 44	D	Satisfactory
0 - 29	F	Fail

The analysis of students' performance was conducted for each subject based on the number of students who sat for the assessment, pass rates and grade distribution. A student was considered to have passed upon attaining Grade D or above in the subject. The performance of students in Agriculture and the related vocational subjects is presented in Table 3.

Table 3: Performance of Students in Each Subject

S/N	Subject Code and Name	Students							
		Sat	Passed		Grades				
			Number of Students	Percentage	A	B	C	D	F
1.	034 Agriculture	368	58	15.80	0	0	8	50	309
2.	403 Animal Health and Production	151	151	100.00	0	18	93	39	0
3.	404 Horticultural Production	93	91	97.85	0	0	30	61	2
4.	405 Field Crop Production	124	120	96.77	0	3	60	57	4

Table 3 shows variations in students' performance across subjects. 034 Agriculture recorded a relatively low pass rate of 15.80 per cent, with the majority of students scoring Grade F. This suggests challenges in mastering the assessed competencies in Agriculture. In contrast, the vocational subjects demonstrated strong performance. 403 Animal Health and Production recorded a 100 per cent pass rate, while 404 Horticultural Production and 405 Field Crop Production achieved pass rates of 97.85 per cent and 96.77 per cent**,** respectively. Most students in these subjects attained Grades C and D, indicating adequate acquisition of practical skills and understanding of subject content.

4.0 ANALYSIS OF STUDENTS' PERFORMANCE IN EACH SUBJECT

4.1 Analysis of Students' Performance Based on Competencies

The performance data of students in the 2025 Form Two National Assessment for each competence were analysed to identify areas of good, average and weak performance. The pass level for each competence was determined based on the average percentage of students who scored 30 marks or above. The analysis of competence achievement was conducted using three performance categories, as shown in Table 4.

Table 4: Competence Performance Categories

Category (%)	Performance level
0 – 29	Weak
30 – 64	Average
65 – 100	Good

To visually represent these categories, three colours are used: green for good performance, yellow for average performance and red for weak performance as shown in the appendices. Performance of the competencies in each subject is analysed as follows:

4.1.1 034 Agriculture Subject

Performance in Agriculture was generally weak, as most of the assessed teaching and learning activities under the competence of *Demonstrating Mastery of the Principles of Agriculture* attained a weak performance.

Teaching and learning activities that showed average performance included *Concept of Agriculture* (57.34%) and *Principles and Practices for the Production of Pig or Rabbit* (56.79%). However, weak performance was observed in several teaching and learning activities, namely *Concept of Soil* (14.81%), *Principles and Practices for the Production of Poultry* (11.96%), *Principles and Practices for the Production of Banana and Common Root/Stem/Tuber Crops* (5.16%) and *Principles and Practices for the Production of Horticultural Crops* (2.46%).

In order to attain a higher level of performance, particularly in the teaching and learning activities which recorded weak performance, the following strategies are recommended:

(a) (i) Demonstration Method

Conduct an actual field demonstration showing land preparation, ridge making, spacing, vine selection, planting angle and depth in planting sweet potatoes.

(ii) Learning by Doing
Allow students to plant sweet potato vines individually or in small groups.

These methods can be used in teaching students how to plant sweet potatoes in the teaching and learning activity of *Principles and Practices for the Production of Banana and Common Root/Stem/Tuber Crops***.** Sweet potato planting is a practical skill best mastered through direct observation and hands-on practice.

(b) **(**i) Case study method
Present real or simulated poultry management problems involving cannibalism and vices.

(ii) Group discussion
Students discuss causes (overcrowding, poor feeding, boredom, lighting) and prevention measures.

The strategies are effective in teaching the prevention of vices and cannibalistic behaviour in poultry in the teaching and learning activity of *Principles and Practices for the Production of Poultry*. Understanding

cause–effect relationships helps students apply preventive management practices correctly.

(c) (i) Comparative Practical Session
Provide good and poor planting materials and let students identify differences.

(ii) Guided Observation
Students observe health status, maturity, disease resistance and vigour for planting materials.

The techniques can best be used to teach criteria to be considered when selecting planting materials under the teaching and learning activity of *Principles and Practices for the Production of Horticultural Crops*. Students learn best when they can see, touch and compare planting materials directly.

(d) (i) Field Observation
Compare soils from different locations (slope versus flat land, forest versus cultivated land).

(ii) Simple Experiments
Demonstrate weathering process using water, heat and rock samples.

The strategies can enhance students' understanding of the factors influencing soil formation under the teaching and learning activity of *The Concept of Soil*. Abstract concepts become clearer when linked to real environments and visible evidence.

4.1.2 403 Animal Health and Production Subject

Performance statistics show that Animal Health and Production recorded generally good performance. The competencies that attained average performance were *Rearing of Domestic Animals* (55.29%) and *Rearing of Poultry* (45.56%). However, weak performance was observed in *Maintaining Safety of Farm Infrastructure and Surroundings* (26.49%) and *Performing Apiculture* (0%).

The performance in competencies for which students demonstrated weak results can be improved by adopting various teaching and learning strategies, including:

(a) (i) Demonstration Method

The teacher should demonstrate pollen harvesting using real flowers and appropriate tools. This helps students observe correct steps, timing and handling techniques, making abstract concepts clear and easy to follow.

(ii) Practical Hands-on Activities

Students should practice collecting pollen under supervision. This strengthens psychomotor skills, improves accuracy and enhances long-term understanding through learning by doing.

(iii) Field-Based Learning (School Garden or Farm)

This enables students to apply techniques in a real environment, improving understanding of natural conditions such as flower maturity and weather effects.

These strategies can be used to improve students' understanding of the techniques of harvesting pollen under the competence of Performing Apiculture.

(b) (i) Demonstration Method

The teacher demonstrates correct handling, mixing, application and storage of farm chemicals using protective gear. This helps students clearly understand safe procedures and proper use of Personal Protective Equipment (PPE).

(ii) Practical Hands-on Activities (Simulated)

Students practise safe chemical use through simulations (e.g. using water instead of chemicals). This builds confidence, reinforces safety rules and reduces the risk of accidents.

(iii) Use of Visual Aids (Posters, Labels, Videos)

Visual materials showing hazard symbols, safety signs and correct storage improve recognition of risks and promote safe behaviour.

These methods can be effective in the teaching of safe ways of using chemicals in the livestock farms under the competence of Maintaining Safety in the Farm Infrastructure and Surroundings.

4.1.3 404 Horticultural Production Subject

Statistical analysis shows that Horticultural Production recorded an overall good performance. The competencies assessed and their corresponding levels of performance were as follows: *Maintaining Safety of the Farm Workshop and Surroundings* (34.41%) and *Sowing, Planting and Transplanting* (30.38%) demonstrated average performance. In contrast, *Performing Land Preparation* (18.82%), *Managing Ornamental Garden* (5.38%), *Managing Soil Fertility* (3.23%) and *Harvesting of Horticultural Crops* (2.15%) recorded weak performance.

To improve students' performance in future assessments, particularly in the competencies that showed weak performance, the following teaching and learning methods are proposed:

(a) (i) Demonstration Method

The teacher practically demonstrates routine tractor maintenance activities such as checking engine oil, coolant level, air filter cleaning, tyre pressure inspection, battery maintenance and greasing moving parts. This helps:

- Students clearly see correct procedures and sequences of maintenance tasks.
- Students understand preventive maintenance and its importance in reducing breakdowns.
- Improve skill retention because students observe real equipment rather than diagrams only.

(ii) Learning by Doing (Hands-on Practical Method)

Students individually or in groups perform maintenance tasks on a tractor under teacher's supervision. This will help students to:

- Build practical competence and confidence in maintaining tractors.

- Link theory directly to real-life practice.

These teaching and learning methods enable students to effectively learn tractor maintenance under the competence of *Performing Land Preparation*.

(b) (i) Learning by Doing (Practical Method)

Students actively train plants themselves by staking, tying, bending, or pruning ornamental plants under supervision. This helps:

- To strengthen understanding through direct experience.
- To appreciate advantages such as better air circulation, light penetration and plant health.
- To build confidence in handling ornamental plants correctly.

(ii) Question and Answer / Guided Discussion Method

The teacher leads discussions by asking questions such as why climbers are trained on trellises, how training affects flowering, or what happens if plants are left untrained. This helps to:

- Encourage critical thinking and active participation.
- Link training practices to benefits like reduced pest and disease incidence.
- correct misconceptions about plant growth and garden management.

These methods facilitate students to develop knowledge of the advantages of training plants in an ornamental garden under the competence of *Managing Ornamental Garden*.

(c) (i) Field Visits and Farm Observation

Students visit farms, school gardens, or demonstration plots where soil fertility management practices are applied. This method connects theory to real-life situations. Students observe the effects of good soil fertility management, such as healthy crops and improved yields, compared to poorly managed fields. It enhances appreciation of sustainable practices like crop rotation and organic matter use.

(ii) Project-Based Learning

Students manage a small garden or plot where they apply soil fertility management practices over time and record changes. Projects promote responsibility and long-term understanding. Students see the cumulative effects of practices like composting, mulching and crop rotation, which strengthens their understanding of sustainability and soil health.

These methods enhance students' understanding of the ways of managing soil fertility under the competence of *Managing Soil Fertility*.

(d) (i) Field Visit / Farm Excursion

Students visit a nearby farm where farmers use observation to estimate expected yield before harvesting. This method exposes students to real farming conditions, such as mixed crop performance, soil variability and unpredictable weather effects. Students observe that farmers may overestimate or underestimate yields due to limited time, experience differences, or large field size. Seeing these challenges firsthand makes learning realistic and long-lasting.

(ii) Group Discussion Method

Students are divided into groups to discuss possible problems farmers encounter when estimating yield through observation. Group discussion encourages students to think critically and share ideas. Learners identify challenges such as human bias, lack of measurement tools, difficulty in counting plants accurately and inability to predict losses before harvest. Through peer interaction, students gain a deeper understanding and appreciate that observation alone is not always an accurate method to estimate yield.

These methods enable students to have a good understanding of the challenges facing farmers when using observation method in estimating yield under the competence of *Harvesting Horticultural Crops*.

4.1.4 405 Field Crop Production Subject

Statistics indicate an overall good performance in the subject. Although the pass rate was high, most individual competencies recorded weak

performance, with the exception of *Sowing and Planting Field Crops* (32.06%), which attained an average level of performance. The competencies that demonstrated weak performance include *Preparing Land for Field Crop Production* (21.37%), *Applying Fertilisers* (16.29%), *Controlling Pests* (5.65%) and *Maintaining Safety of the Farm Workshop and Surroundings* (0.81%).

In order to improve students' performance in future assessment, particularly in the competencies that showed weak performance, the following teaching and learning techniques are proposed:

(a) (i) Field Visit / Farm Exposure

Students visit a nearby farm or school farm where they observe both well-maintained and poorly maintained tools and machinery. The farmer or instructor explains how maintenance affects land preparation efficiency, fuel consumption and quality of seedbeds. Real-life examples help students understand practical challenges farmers face and reinforce the importance of regular maintenance.

(ii) Problem-Solving Method

The teacher presents common problems such as blunt tools, broken implements, or machinery breakdowns during land preparation. Students discuss causes, effects and possible solutions, focusing on maintenance practices. This method develops critical thinking and helps students understand the consequences of neglecting maintenance.

These techniques help students to effectively understand the importance of carrying out maintenance practices on farm tools and machinery under the competence of Preparing Land for Field Crop Production.

(b) (i) Field Experiment/Comparative Trial

The teacher establishes two plots: one treated with foliar fertilizer and the other without (or with soil fertilizer only). Students observe differences in plant growth, leaf colour and yield over

time. Comparison enables students to clearly understand the advantages of foliar fertilisation through visible results.

(ii) Field Visit/Farm Observation

Students visit farms where foliar fertilisation is practised. Farmers explain how foliar feeding helps in correcting micronutrient deficiencies, improving crop recovery during stress and increasing yields. Real-life experiences help students appreciate practical benefits and farmer decision-making.

These techniques enable students to acquire knowledge of the benefits of the foliar fertilisation method under the competence of Applying Fertilisers.

(c) (i) Demonstration Method

The teacher demonstrates different weed control methods such as hand weeding, hoeing, mulching and the correct application of herbicides (using water only for safety during class). The teacher explains when and why each method is used. Students clearly understand practical weed control techniques and their proper timing.

(ii) Practical (Hands-on) Method

Students participate in weeding activities on the school farm, including hand pulling, hoeing, or mulching. They observe the effect of weed removal on crop growth. Active participation helps students appreciate the importance of weed control in reducing competition for nutrients, water and light.

These techniques enable students to develop knowledge and skills of the methods of controlling weeds under the competence of Controlling Pests.

(d) (i) Step-by-Step Guided Instruction

The teacher breaks down the winnowing process into clear steps and explains each one before students practise. Diagrams or flow charts may be used to reinforce the sequence. This method improves procedural understanding and reduces errors during practice.

(ii) Group Work Method

Students work in small groups to perform winnowing tasks, with each group member assigned a role such as tossing, collecting grain, or cleaning the area. Group work promotes cooperation and ensures all students understand each stage of the procedure.

These techniques enable students to become familiar with the step-by-step procedures involved in winnowing maize under the competence of Maintaining Safety of the Farm Workshop and Surroundings.

4.2 Analysis of Students' Performance Based on Questions

The analysis of students' responses and practical performance level in the 2025 FTNA was conducted by identifying the questions that were correctly answered and those that were poorly answered in each subject. The findings are presented and explained as follows:

4.2.1 034 Agriculture Subject

The statistics indicate that in the assessment of the Agriculture subject, one question was well performed, two questions recorded average performance and seven questions were poorly performed. Further analysis shows that the multiple-choice question recorded the highest level of performance, with a pass rate of 76.36 per cent. This question was drawn from various teaching and learning activities under the competence of Demonstrating Mastery of the Principles of Agriculture.

The statistics also indicate that 5.16 per cent of the students who passed the assessment attained a good level of performance in this question.

Analysis of students' responses revealed that the majority of them demonstrated a good understanding of different concepts assessed. Extract 1 presents a sample response from a student who achieved good performance in the question.

1. For each items (i) - (x), choose the correct answer from the given alternatives and write its letter in the box provided.

(i) The following are list of horticultural crops **except**:
A Tomato B Chinese cabbage
C Millet D Onion
C

(ii) Why farmers prefer mulching in banana fields?
A To enhance fast growth of crop
B To control panama disease
C To suppress weed growth
D To encourage development of suckers
B

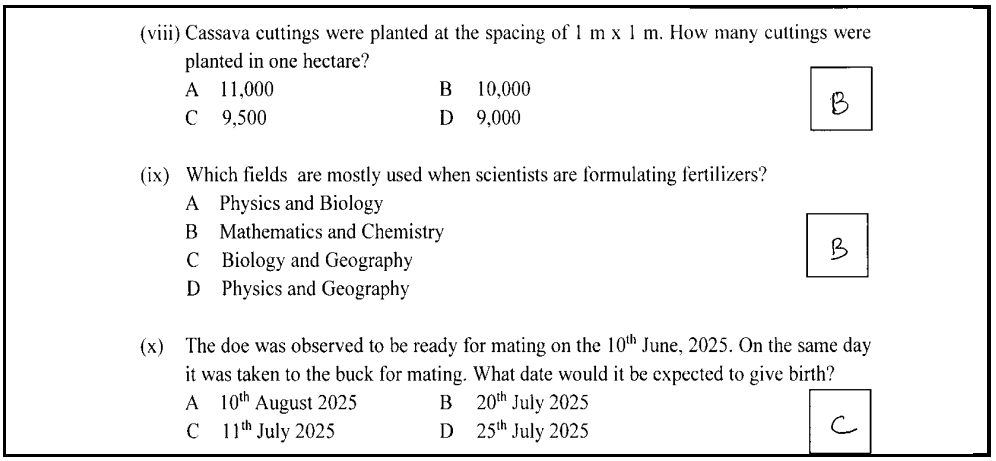
(iii) Which type of soil is suitable for growing tomato?
A Sandy soil B Clayey soil
C Silty soil D Loamy soil
D

(iv) Why do farmers collect the animal feeds remains and faeces and put them to their farm?
A To add organic matter to the soil
B To add soil organisms
C To add soil water
D To add mineral matter to the soil
A

(v) Which pest causes cassava leaf yellowing, molting, death and fall?
A Cassava mealybug
B Whiteflies
C Variegated grasshoppers
D Cassava green mites
D

(vi) A rabbit keeper feeds his animals well, but they don't get fat. Which food component is lacking?
A Water B Minerals
C Proteins D Vitamins
C

(vii) Which breed tolerates different environmental conditions, has low production cost and preferred by most of the consumers?
A Indigenous breed B Exotic breed
C Heavy breed D Light breed
A


(viii) Cassava cuttings were planted at the spacing of 1 m x 1 m. How many cuttings were planted in one hectare?

A 11,000 B 10,000

C 9,500 D 9,000

B

(ix) Which fields are mostly used when scientists are formulating fertilizers?

A Physics and Biology

B Mathematics and Chemistry

C Biology and Geography

D Physics and Geography

B

(x) The doe was observed to be ready for mating on the 10th June, 2025. On the same day it was taken to the buck for mating. What date would it be expected to give birth?

A 10th August 2025 B 20th July 2025

C 11th July 2025 D 25th July 2025

C

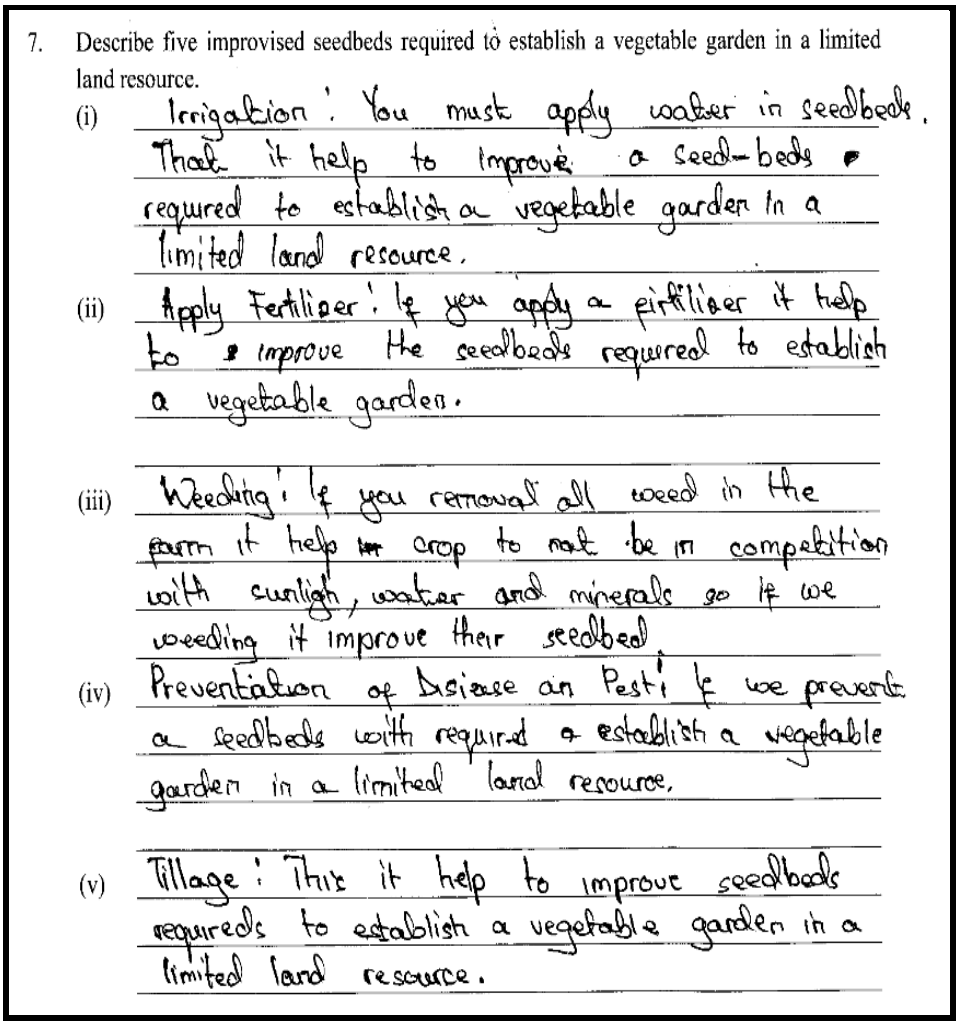
Extract 1: A Sample of Correct Responses to Question 1

In Extract 1, the student provided correct responses to most items, except for item (ii), demonstrating good mastery of the concepts tested.

Further analysis of the data revealed that question 7, which was drawn from the competence of *Demonstrate Mastery of the Principles of Agriculture* under the teaching and learning activity of the *Principles and Practices for the Production of Horticultural Crops* recorded a pass rate of 0.03 per cent. The question asked: *Describe five improvised seedbeds required to establish a vegetable garden in a limited land resource*.

Nearly all students (99.97%) had weak performance in this question, with almost all scoring zero marks. Students failed to describe improvised seedbeds suitable for establishing a vegetable garden under conditions of limited land availability. Instead of explaining appropriate improvised seedbeds, many students described conventional types of seedbeds such as raised, sunken and flat seedbeds. In addition, some students provided a wide range of irrelevant and incorrect responses, indicating a lack of understanding of the concept of improvised seedbeds.

The expected responses included growing vegetables in containers such as vehicle tyres, bags, ready-made pots and sacks. Extract 2 presents a sample of an incorrect response to Question 7.


7. Describe five improvised seedbeds required to establish a vegetable garden in a limited land resource.

(i) Irrigation: You must apply water in seedbeds. That it help to improve a seed-beds required to establish a vegetable garden in a limited land resource.

(ii) Apply Fertilizer: If you apply a fertilizer it help to improve the seedbeds required to establish a vegetable garden.

(iii) Weeding: If you removal all weed in the farm it help crop to not be in competition with sunligh, water and minerals so if we weeding it improve their seedbed.

(iv) Preventiation of Disease an Pest: If we prevents a seedbeds with required a establish a vegetable garden in a limited land resource.

(v) Tillage: This it help to improve seedbeds requireds to establish a vegetable garden in a limited land resource.

Extract 2: A Sample of Incorrect Responses to Question 7

In Extract 2, the student incorrectly provided principles of crop production instead of describing improvised seedbeds, indicating a lack of subject matter knowledge.

4.2.2 403 Animal Health and Production Subject

4.2.2.1 403/1 Animal Health and Production 1

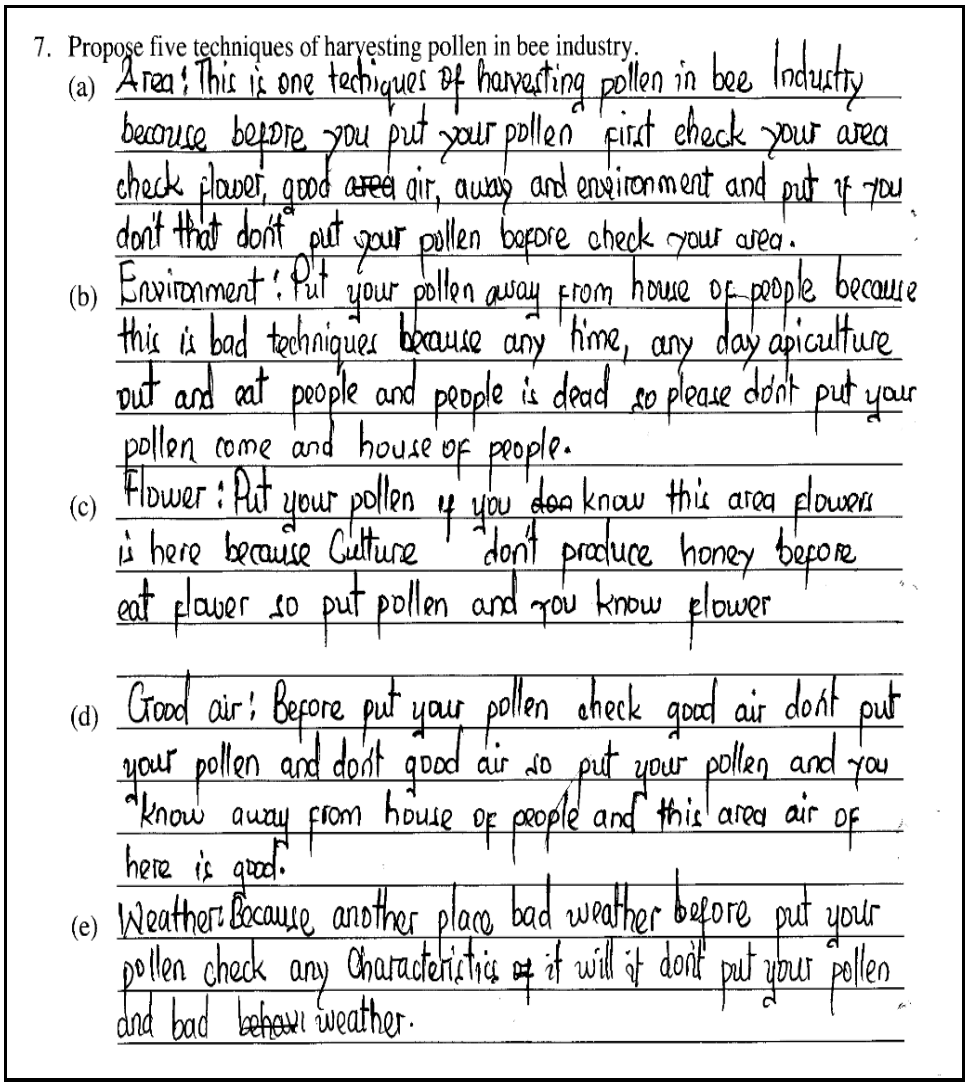
The statistics indicate that in the assessment of *Animal Health and Production 1*, none of the questions attained a good level of performance. Out of the ten questions assessed, six recorded average performance, while four showed weak performance.

Further analysis reveals that question 7, which was drawn from the competence of *Performing Apiculture*, recorded weak performance with a pass rate of 0 per cent. The question required candidates to propose five techniques of harvesting pollen in the bee industry. All students (100%) failed to propose the required techniques and consequently scored zero.

Analysis of students' responses shows that most of them misunderstood the requirement of the question. Some students described procedures involved in pollen harvesting rather than identifying the actual techniques. Examples of such incorrect responses included bee pollen trapping, timing and frequency, drying, processing and storage. Some students confused pollen harvesting with royal jelly harvesting and incorrectly listed methods such as the queenless method, presence of the queen and alternative methods as techniques for harvesting pollen. Additionally, some students responded by mentioning bee-hive management practices, including availability of water, proper feeding, appropriate housing, cleaning and disinfecting, which were irrelevant to the question.

These responses indicate a lack of understanding of the demands of the question and demonstrate misconceptions regarding the distinction between techniques, procedures and management practices in apiculture. The expected correct responses included techniques such as vibration techniques, beating method, vacuum collection, bee pollen trapping, corbicula pollen collection and the use of a pipette tip with filler for pollen collection.

Extract 3 presents a sample response from a student who performed poorly on this question.



7. Propose five techniques of harvesting pollen in bee industry.

(a) Area: This is one techniques of harvesting pollen in bee Industry because before you put your pollen first check your area check flower, good area air, away and environment and put if you don't that don't put your pollen before check your area.

(b) Environment: Put your pollen away from house of people because this is bad techniques because any time, any day apiculture out and eat people and people is dead so please don't put your pollen come and house of people.

(c) Flower: Put your pollen if you don know this area flowers is here because Culture don't produce honey before eat flower so put pollen and you know flower

(d) Good air: Before put your pollen check good air don't put your pollen and don't good air so put your pollen and you know away from house of people and this area air of here is good.

(e) Weather: Because another place bad weather before put your pollen check any Characteristics of it will if don't put your pollen and bad behavi weather.

Extract 3: A Sample of Incorrect Responses to Question 7

In Extract 3, the student provided incorrect responses that were contrary to the demands of the question, indicating a lack of knowledge and skills in the subject matter.

4.2.2.2 403/2 Animal Health and Production 2

The practical assessment was drawn from the competence of *Rearing Poultry*, with emphasis on the debeaking of poultry. During the assessment, students were provided with the required tools, equipment and materials including Hand debeaker, Face mask, kitchen knife, scissors, adult chicken,

Apron/Laboratory coat, Disinfectant solution (Spirit), Towel, Cotton wool, Disposable hand gloves, Gumboots, Table with flat working surface, Source of water, Source of heat, Multipurpose liquid washing soap, Containers for holding chicken birds, First aid kit and Sisal rope to enable them to perform the task safely and effectively. The task required students to carry out debeaking of a given adult chicken in accordance with recommended poultry management practices.

The assessment was conducted using clearly defined criteria and performance indicators designed to evaluate students' competencies in key aspects of the debeaking process. These included adherence to safety precautions, appropriate selection and use of tools and equipment, proper execution of task procedures, understanding of the underlying principles of debeaking, attitude towards work, care and maintenance of tools and equipment, effective time management and the quality of the final product.

The data show that the question had a pass rate of 100 per cent with 89.40 per cent of the students having performed well. They also were able to meet most of the assessment criteria by demonstrating the required performance indicators. They adhered to safety precautions, selected appropriate tools and equipment, correctly followed the debeaking procedures and handled the birds gently. In addition, they showed adequate understanding of the purpose of debeaking and the importance of disinfecting tools. This performance indicates that they possessed adequate knowledge and practical skills in poultry debeaking.

On the other hand, the data indicate that 10.60 per cent of the students had an average performance in the question. These students failed to meet some of the assessment criteria. In particular, many of them did not follow the correct task procedures, such as improper restraint of the bird, incorrect trimming of the beak, or failure to avoid over-trimming and bleeding. As a result, the quality of the final product was poor. This performance suggests that the students had inadequate knowledge and insufficient practical skills in the process of poultry debeaking.

4.2.3 404 Horticultural Production

4.2.3.1 404/1 Horticultural Production 1

The statistics indicate that in the assessment of Horticultural Production I, one question was well performed, one question recorded average performance and eight questions were poorly performed. Further analysis shows that the multiple-choice question (Question 1) recorded the highest level of performance, with a pass rate of 72.04 per cent. This question covered content drawn from various competencies.

The statistics also indicate that 9.70 per cent of the students who passed the assessment attained a good level of performance in this question. Analysis of students' responses revealed that the majority of them demonstrated a good understanding of the different concepts assessed. Extract 4 presents a sample response from a student who achieved good performance in the question.

1. For each of the items (i) - (x), choose the correct answer from the given alternatives and write its letter beside the item number in the answer booklet provided.

(i) A place where plants such as flowers, vegetables, herbs and shrubs are grown and maintained is called
A Nursery B Field
C Garden D Orchard — C

(ii) Which tool you would use to pin point exact location and track routes for identified landscape?
A Topographic maps B Global position system
C Compass direction D Digital camera — A

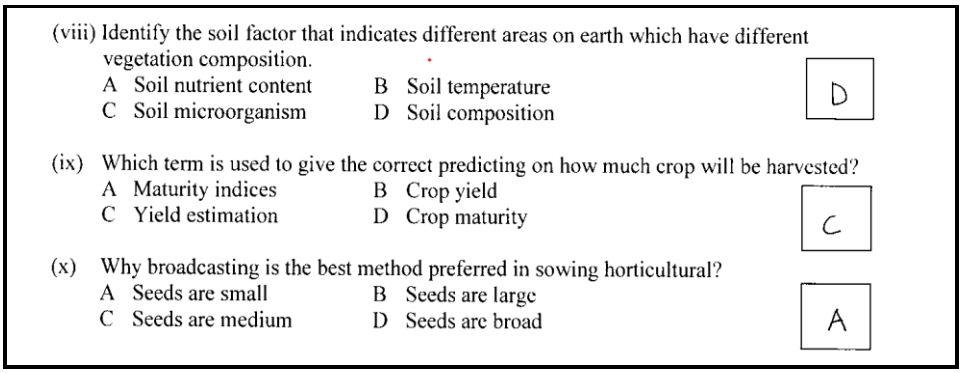
(iii) An ornamental garden that includes a mixture of annuals, perennials and flower shrubs grown for their beauty is known as
A Specialty B Traditional
C Functional D Decorative — B

(iv) Which device with one-way valve you would use as a barrier between you and the person receiving artificial respiration to reduce the risk of infection transmission?
A Bag value mask B Pocket mask
C Oxygen mask D Suction device — B

(v) Mr. Baraka was walking around his garden and he unexpectedly fell down without injury. How is the event called?
A Accident B Uncertainty
C Risk D Incident — B

(vi) During preparation of compost manure, turning the pile is one of the step to be followed in order to introduce oxygen and speeds up decomposition. What is the favorable temperature to consider to enhance this?
A 50-55 ^{0}C B 65-66 ^{0}C
C 60-65 ^{0}C D 50-65 ^{0}C — C

(vii) Seven days after sowing cabbage seeds, Mr. Juma visited his farm and found that, there were only few seedlings. Which one might be the cause?
A Poor seedling vigor B Low seedling growth rate
C Low seed germination percent D Low seed purity — C


(viii) Identify the soil factor that indicates different areas on earth which have different vegetation composition.

A Soil nutrient content B Soil temperature
C Soil microorganism D Soil composition

D

(ix) Which term is used to give the correct predicting on how much crop will be harvested?

A Maturity indices B Crop yield
C Yield estimation D Crop maturity

C

(x) Why broadcasting is the best method preferred in sowing horticultural?

A Seeds are small B Seeds are large
C Seeds are medium D Seeds are broad

A

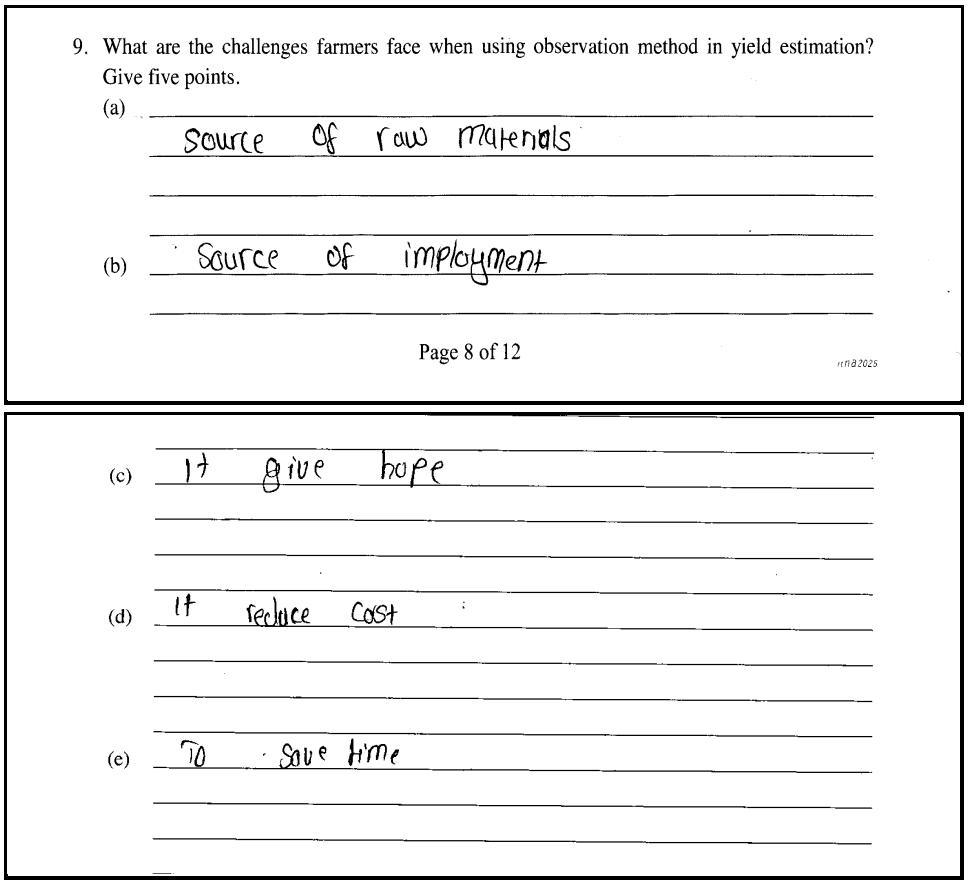
Extract 4: A Sample of Correct Responses to Question 1

In Extract 4, the student correctly attempted most of the items, except items (ii), (v) and (vi). This indicates good mastery of the concepts assessed.

Furthermore, the statistics show that question 9, which was drawn from the competence of *Harvesting of Horticultural Crops*, recorded weak performance, with a pass rate of 2.15 per cent. The question required students to state five challenges farmers face when using the observation method in yield estimation.

The majority of students (97.85%) had weak performance in this question, with 90.30 per cent scoring zero marks. Most students failed to identify the challenges associated with the observation method in yield estimation. Instead, they provided a range of irrelevant responses such as *application of compost manure*, *transplanting*, *foliar application*, *early planting* and *control of pests and diseases*. These incorrect responses indicate that the students did not understand the demand of the question and lacked subject matter knowledge.

The expected responses included the following challenges: *the method depends heavily on the individual's ability to judge crop performance*, *which may lead to errors*, *it does not involve the use of measurements or tools*, *the estimates are often rough and unreliable*, *weather conditions such as rain or wind can affect plant appearance and influence judgement*, *the method is difficult to apply accurately in large fields compared to small plots*; and *the presence of indeterminate crops, which continue to grow and produce flowers and fruits, can further reduce estimation accuracy*. Extract 5 presents responses from a student who performed poorly on the question.


9. What are the challenges farmers face when using observation method in yield estimation? Give five points.

(a) Source of raw materials

(b) Source of imployment

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(c) It give hope

(d) It reduce cost

(e) To save time

Extract 5: A Sample of Incorrect Responses to Question 9

In Extract 5, the student not only provided incorrect responses but also failed to explain their responses, indicating a poor understanding of the concept being tested.

4.2.3.2 404/2 Horticultural Production 2

The practical assessment was drawn from the competence of *Sowing, Planting and Transplanting*. Students were provided with the following tools, equipment and materials: hand hoe, rake, garden knife, hand fork, watering can, 20-litre bucket, slasher, sun-protection hat/cap, overall/overcoat, tape measure, garden gloves, sweet potato vines, well-decomposed farmyard manure, gumboots, pegs, wheelbarrow, source of water, sisal rope and a farm area.

Students were required to prepare a ridge measuring 1 m x 3 m long and plant sweet potato vines on the prepared ridge while observing the recommended planting method and plant population. Assessment was conducted using clearly defined assessment areas, criteria and performance indicators.

The statistics indicate that 100 per cent of the students passed the assessment, out of them 89.25 per cent had good performance. The majority of them demonstrated good performance across almost all assessment areas. They correctly adhered to safety precautions, selected appropriate tools and equipment, followed the correct task procedures and applied manure and planting techniques according to recommended practices. They also demonstrated adequate underpinning knowledge by providing correct responses to oral questions related to planting in ridges. Overall, these students were able to meet the assessment criteria provided, indicating adequate competence in sweet potato planting practices.

However, 10.75 per cent of the students performed averagely in the practical assessment. However, some students failed to meet all the assessment criteria, particularly in task procedures such as land preparation, ridge construction, vine preparation and correct spacing to achieve the desired plant population. In some cases, improper planting and poor quality of the final product were observed. This performance suggests that they had insufficient knowledge and limited practical skills in planting sweet potato vines.

4.2.4 405 Field Crop Production

4.2.4.1 405/1 Field Crop Production 1

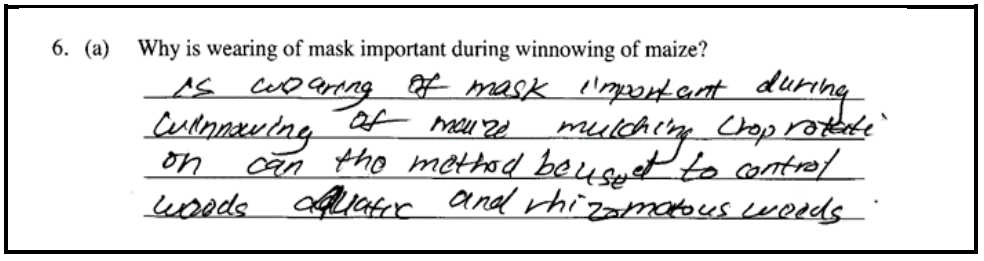
The statistics indicate that in the assessment of Field Crop Production 1, no question attained good performance. Out of ten questions assessed, two showed average performance, while eight recorded weak performance.
Specifically, question 6, which was drawn from the competence of *Maintaining Safety of Farm Workshop and Surroundings*, performed poorly, with a pass rate of only 0.81 per cent. The question asked:

(a) Why is wearing a mask important during the winnowing of maize?
(b) Briefly describe eight procedures to be followed during the winnowing of maize.

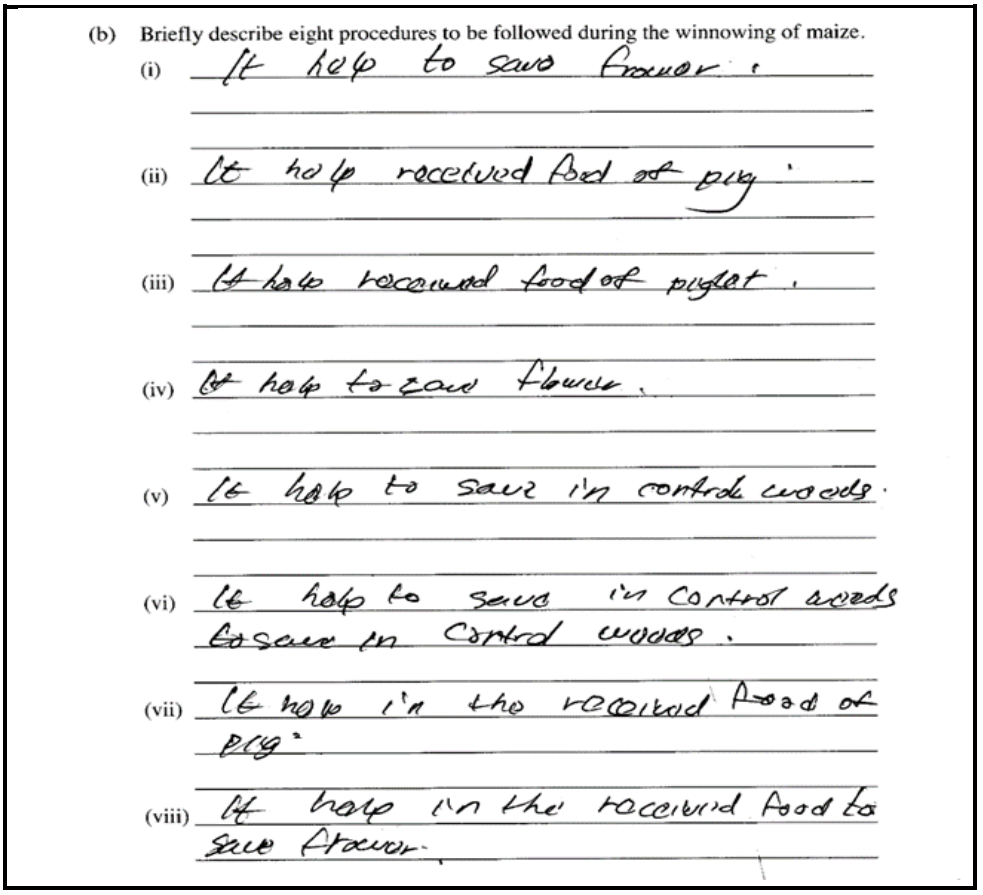
The majority of students (99.19%) performed poorly on this question and 87.90 per cent scored zero marks. Most provided incorrect responses for both parts.

In part (a), students failed to explain the importance of wearing a mask during winnowing. Many listed other safety gears such as hand gloves, eye goggles, gumboots, hats and overalls instead of addressing the purpose of the mask. Others gave irrelevant responses, including statements such as *it is a new nutrient in maize, it is used during spraying, it contains chemicals, it is used for writing notes and* it *causes diseases.* These responses indicate a lack of understanding regarding the role of the mask as a safety measure. The correct response is: to protect against flying debris and dust.

Similarly, in part (b), most students could not describe the procedures for winnowing maize. Some described general post-harvest practices, including *cleaning, sorting, drying, grading, threshing* and *packaging*, rather than the actual steps of winnowing. Others gave completely irrelevant responses, such as: *it provides aeration, it increases soil nutrients, it provides food, it is a source of microorganisms and it helps plant growth.* This indicates that students lacked both knowledge and practical skills in performing winnowing. The correct procedures for winnowing maize are: (i) *Find an open area with good airflow, take a basket or tray to hold the threshing mixture, hold the basket at chest height, face slightly against the wind, tilt the basket gently and pour the mixture slowly, toss the grains upward gently, heavier seeds fall straight, while lighter chaff is blown away, repeat the process until most of the chaff is removed and collect the cleaned seeds for storage or use*. Extract 6 illustrates a response from a student who performed poorly on this question.


6. (a) Why is wearing of mask important during winnowing of maize?

As wearing of mask important during winnowing of maize mulching crop rotate on can the method because to control weeds aquatic and rhizomatous weeds.


(b) Briefly describe eight procedures to be followed during the winnowing of maize.

(i) It help to save flower.

(ii) It help received food of pig.

(iii) It help received food of piglet.

(iv) It help to save flower.

(v) It help to save in control weeds.

(vi) It help to save in control weeds to save in control weeds.

(vii) It help in the received food of pig.

(viii) It help in the received food to save flower.

Extract 6: A Sample of Incorrect Responses to Question 6

In Extract 6, the student provided responses that were not related to the demand of the question, indicating a lack of knowledge and skills in winnowing procedures.

4.2.4.2 405/2 Field Crop Production 2

The practical assessment was drawn from the competence of Sowing and Planting Field Crops. Students were provided with the following tools, equipment and materials: hand hoe, sharp knife, rake, slasher, tape measure (10m), 30 cm ruler, watering can, gumboots, 20 litres bucket, garden gloves, overcoat/overall, sun protection cap and machete, wooden peg, sisal rope, source of water, a mixture of round potato tubers with the following conditions: rotten tubers, tubers with no eyes and sprout, tubers with dark spots and healthy tubers with good planting material features.

Students were required to prepare a ridge measuring 3 m in length, 60 cm in width and 30 cm in height and to plant round potato tubers on the prepared ridge using the recommended planting method and plant population. Their performance was assessed using clearly defined assessment areas, criteria and performance indicators. The assessment focused on land preparation, measurement and construction of the ridge, correct planting procedures, adherence to recommended spacing and plant population, proper use of tools and equipment, observance of safety precautions, time management and the overall quality of the completed task.

The statistics indicate that 100 per cent of the students passed the practical assessment, out of which 93.50 per cent had good performance. The majority of them demonstrated good performance across almost all assessment areas. They correctly adhered to safety precautions, selected appropriate tools, followed the correct task procedures and planting techniques according to recommended practices. They also demonstrated adequate underpinning knowledge by providing correct responses to oral questions related to planting in ridges. Overall, these students were able to meet the assessment criteria provided, indicating adequate competence in round potato tubers planting practices.

However, 6.5 per cent of the students had an average performance. Most of them did not meet some of the assessment criteria, particularly in task procedures such as land preparation, ridge construction, round potato tubers preparation and correct spacing to achieve the desired plant population. This performance suggests that they had insufficient knowledge and limited practical skills in planting round potato tubers.

5.0 CONCLUSION AND RECOMMENDATIONS

This section presents the findings from the analysis of students' performance and suggests different ways to improve students' academic achievement.

5.1 Conclusion

The analysis of the 2025 Form Two National Assessment (FTNA) results in Agriculture and Food Processing reveals clear disparities in students' performance between the general Agriculture subject and the related

vocational subjects: Animal Health and Production, Horticultural Production and Field Crop Production.

Overall, students demonstrated strong performance in the vocational subjects, particularly in the practical components, where pass rates ranged from 96.77 per cent to 100 per cent. This indicates that when learners are exposed to hands-on activities, structured practical tasks and continuous skill-based learning, they are able to acquire and demonstrate the required agricultural competencies effectively. High levels of achievement in practical assessments such as poultry debeaking, sweet potato planting and round potato tuber planting confirm that learning by doing enhances skill mastery, confidence and procedural accuracy.

In contrast, the general Agriculture subject recorded a very low pass rate of 15.80 per cent, with the majority of students scoring Grade F. Performance was particularly weak in competencies related to soil concepts, horticultural crop production, poultry production and banana/root/tuber crop production. Students exhibited serious difficulties in interpreting questions, distinguishing between concepts and structuring correct responses, especially in open-ended theoretical questions.

Across subjects, the analysis further reveals that students performed better in multiple-choice items than in structured and essay-type questions, suggesting limited depth of understanding and weak explanatory skills. Many students provided responses that were irrelevant, descriptive without focus, or completely unrelated to the demands of the questions, indicating inadequate mastery of subject matter.

A notable and consistent finding is the disconnect between theoretical knowledge and practical understanding, particularly in safety-related competencies such as winnowing maize, safe chemical use and farm workshop safety. Despite these being routine agricultural practices, many students lacked even basic conceptual understanding of procedures and safety measures.

In summary, while the vocational pathway demonstrates the effectiveness of competence-based, practice-oriented instruction, the weak performance in the Agriculture subject highlights the need for pedagogical reform, enhanced

practical exposure and improved alignment between teaching, learning activities and assessment demands.

5.2 Recommendations

Based on the findings of this report, the following recommendations are made to address the identified challenges and improve students' performance in future assessments:

(a) Strengthen Practical-Oriented Teaching in Agriculture: Greater emphasis should be placed on demonstrations, learning by doing, field observations, school farm and garden activities. This will help learners relate theoretical concepts to real agricultural practices and improve understanding of abstract concepts.

(b) Improve Coverage of Weak Competencies: Targeted instructional support should be provided for competencies that consistently recorded weak performance, including improvised seedbeds in limited land resources, apiculture practices, particularly pollen harvesting, safety in farm workshops and post-harvest operations and yield estimation methods and their limitations. Teachers should use case studies, comparative practicals and guided discussions to clarify misconceptions.

(c) Build Students' Question Interpretation and Response Skills: Students should be trained on: understanding command words such as *describe*, *state*, *explain* and *propose*, differentiating between techniques, procedures and management practices and structuring responses logically and according to the demands of the question. Regular classroom exercises using past questions and marking guides should be encouraged.

(d) Strengthen Safety Education in Agricultural Practices: Given the widespread weaknesses in safety-related competencies, schools should ensure that: safety procedures are demonstrated and practised regularly, Personal Protective Equipment (PPE) is available and correctly used and safety principles are assessed practically, not taught theoretically only. This will promote both assessment performance and safe agricultural practices.

(e) Strengthen Monitoring and Support at School Level: School management should ensure: adequate time allocation for practical lessons, availability and proper use of tools, equipment and materials and regular internal assessments that reflect national assessment standards. This will improve preparedness and consistency in learning outcomes.

Appendices:

Students' Performance in Each Competence Across Different Subjects

034 Agriculture

S/N	Competence	Learning Activity	Question Number	Percentage of Students who Scored an Average of 30% Marks or Above	Average	Remarks
1.	Demonstrate Mastery of the Principles of Agriculture	The Concept of Soil, Principles and Practices for the Production of Pig or Rabbit, Principles and Practices for the Production of Banana and Common Root/Stem/Tuber Crops, Principles and Practices for the Production of Poultry and Principles and Practices for the Productions of Horticultural Crops.	1	76.36	76.36	Good
2.		The Concept of Agriculture	10	57.34	57.34	Average
3.		Principles and Practices for the Production of Pig or Rabbit	3	56.79	56.79	Average

S/N	Competence	Learning Activity	Question Number	Percentage of Students who Scored an Average of 30% Marks or Above	Average	Remarks
4.		The Concept of Soil	2	21.47	14.81	Weak
			8	8.15		
5.		Principles and Practices for the Production of Poultry	5	11.41	11.96	Weak
			9	12.50		
6.		Principles and Practices for the Production of Banana and Common Root/Stem/Tuber Crops	4	5.16	5.16	Weak
7.		Principles and Practices for the Production of the Horticultural Crops	6	4.89	2.46	Weak
			7	0.03		

403 Animal Health Production

S/N	Competence	Question Number	Percentage of Students who Scored an Average of 30% Marks or above	Average	Remarks
1.	Rearing of Domestic Animals, Rearing of Poultry and Maintaining Safety of Farm Infrastructure and Surroundings	1	56.95	56.95	Average
2.	Rearing of Domestic Animals	3	48.34	55.29	Average
		10	62.25		
3.	Rearing of Poultry	Practical	100	45.56	Average
		2	45.03		
		4	43.05		
		5	19.21		
		6	20.53		
4.	Maintaining Safety of Farm Infrastructure and Surroundings	8	37.09	26.49	Weak
		9	15.89		
5.	Performing Apiculture	7	0.00	0.00	Weak

404 Horticultural Production

S/N	Competence	Question Number	Percentage of Students who Scored an Average of 30% Marks or Above	Average	Remarks
1.	Maintaining Safety of Farm Workshop and Surroundings, Performing Land Preparation, Sowing, Planting and Transplanting, Managing Ornamental Gardens, Managing Soil Fertility and Harvesting of Horticultural Crops	1	72.04	72.04	Good
2.	Maintaining Safety of Farm Workshop and Surroundings	4	34.41	34.41	Average
3.	Sowing, Planting and Transplanting	Practical	100.00	30.38	Average
		2	11.83		
		3	3.23		
		10	6.45		
4.	Performing Land Preparation	5	19.35	18.82	Weak
		6	18.28		
5.	Managing Ornamental Gardens	7	5.38	5.38	Weak
6.	Managing Soil Fertility	8	3.23	3.23	Weak
7.	Harvesting of Horticultural Crops	9	2.15	2.15	Weak

405 Field Crop Production

S/N	Competence	Question Number	Students who Scored an average of 30% Marks and above	Average	Remarks
1.	Maintaining Safety of Farm Workshop and Surroundings, Sowing and Planting Field Crops, Applying Fertilisers, Controlling Pests and Managing Water for Field Crops	1	39.52	39.52	Average
2.	Sowing and Planting Field Crops	Practical	100.00	32.06	Average
		3	13.71		
		4	10.48		
		7	4.03		
3.	Preparing Land for Field Crop Production	9	8.87	21.37	Weak
		10	33.87		
4.	Applying Fertilizer	2	15.52	16.29	Weak
		8	8.87		
5.	Controlling Pests	5	5.65	5.65	Weak
6.	Maintaining Safety of Farm Workshop and Surroundings	6	0.81	0.81	Weak