PRINCIPAL EXAMINER'S REPORT

BOTSWANA EXAMINATIONS COUNCIL

BGCSE FIELD CROP PRODUCTION

2024

Advancing learning, certifying your future

PAPER 1: WRITTEN THEORY

General Comments

The performance for the 2024 cohort was somewhat better as compared to that of the 2023 cohort. The quality of work of the 2024 cohort was also somewhat better than that of 2023 cohort as evidenced by the presentation of their work, whereby most candidates did not have many gaps where questions were left not attempted. There was a logical presentation of responses by most candidates and most candidates were able to observe rubrics. Most of the work presented by candidates was neat, for example, question 2(a)(iii) for calculating mass of superphosphate and question 3(c)(iii) on determining the amount of spray mixture and question 5(a)(iii) on calculating minimum planting depth. The 2024 cohort was much better than the 2023 cohort as far as mathematical computations are concerned as evidenced by their performance in 2(a)(iii), 3(c) and 5(a)(iii). Candidates failed to observe command words like describe and explain, Candidates simply outlined or stated points where they were required to describe or explain them leading to them losing marks. Most candidates also had problems with questions that required them to differentiate/ distinguish things. They failed to give matching responses to attract a mark. It is advisable for candidates to use a table for questions that require to differentiate / compare/ distinguish things like in 2(a)(ii), 2(c)(ii) and 5(c)(ii).

Comments on Individual Items

1 (a) (i) Most candidates did very well in this question. Most candidates managed to recall that crops such as maize and sorghum are examples of monocotyledonous crops though a few candidates wrote answers such as beans, groundnuts, sweet potatoes as answers.

(ii) Performance of candidates in this question was poor. Candidates failed to give the basic difference that monocots have one cotyledon while dicots have two cotyledons, and that monocots have narrow leaves while dicots have broad leaves etc. Centres are advised to teach learners that for a question that requires them to differentiate they need to give two differences for them to get the full marks

(iii) The performance of candidates in this question was average. Most candidates defined osmosis instead of describing the process of osmosis. The candidates failed to detail the variations in water molecules that results in the water entering the roots, moving from cell to or concentration gradients of water at different points. Centres are advised to explain these command words to learners so that they can differentiate the two to avoid unnecessary loss of marks.

(b) (i) Most candidates were able to recall that asexual reproduction is the type of propagation that produce crops using vegetative parts and so this question was well done.

(ii) Performance of candidates in this question was average. The common answer was protection from sunlight. Some expected responses include structure in which crops are raised under controlled/managed conditions; helps to conserve moisture; temperature/ light duration/ light intensity/ humidity/wind are controlled.

(iii) The performance in this question was average. Most candidates managed to get a score for the name of the method which was cutting. The common error for the name of the method

was asexual propagation. For conditions necessary for crop establishment most candidates wrote nutrient which was wrong. Centres are advised to teach candidates the different methods of propagating plants.

(c) (i) The performance of candidates in this question was average. Some candidates wrote that energy from respiration was used for photosynthesis and osmosis which resulted in them losing marks.

(ii) Candidates performed fairly in this question. Most candidates failed to write the correct word and or symbol equation for the process of photosynthesis. Centres are advised to teach learners the process of photosynthesis without compromising anything as this is one question candidates are expected to do well in.

(iii) Most candidates failed to write or explain how or what the two regions X and Y do that contributes to the growth of a plant. Most candidates merely wrote the benefit as absorption of nutrients and water for both regions. Candidates were expected to explain what happens in each region that contributes to plant growth, e.g. in Region X the cells lengthen /increase the size of root which then pushes the root through the soil to absorb water/nutrients.

2 (a) (i) Most candidates recalled the digging fork as the tool that is used for turning the soil. There were some candidates who gave answers such as hand fork and harrow, which were not credit worthy.

(ii) The question was poorly done. Most candidates failed to write that soil clods were broken down into “smaller” pieces when defining harrowing. A few candidates used tools to differentiate the soil preparation methods. Centres are advised to encourage candidates to use a table when they answer questions that require them to make comparisons.

(iii) This question was well done by most candidates. There is a great improvement as compared to previous years when attempting questions of this nature.

Answer: 400 g

(b) (i) This question was poorly done by most candidates. Instead of writing soil analysis as the correct answer they wrote soil testing or soil pH.

(ii) The question was fairly done by most candidates. Most candidates noted that organic manures improve soil structure but failed to write the other benefit to be able to get maximum marks.

(iii) This question was fairly done by most candidates. Most candidates wrote 500 kg / ha as the answer and failed to give the correct reason. The candidates failed to note that maximum yields are achieved with 400 kg / ha. Most candidates also gave the impacts of over application on crops and forgot or did not bother to give the impacts on the soil.

(c) (i) The question was fairly done by most candidates. Some common wrong answers given by the candidates include sweet potatoes and Napier grass instead of sorghum, maize, millet, sweet reed etc.

(ii) This question was poorly answered by the candidates. Most candidates left the answering space blank. Candidates confused stolon and rhizomes since most wrote that stolons are found below the ground while rhizomes are above the ground. Some of the expected answers are shown in the table below.

stolons	rhizomes
grow above the ground	grow beneath the ground
does not belong to the main stem of the plant	belongs to the main stem of the plant
thin and long	thick and short
spread faster	grow slowly

(iii) This question was well answered by candidates. Candidates were able to suggest measures that can be put in place to increase life span of tools. Their answers included cleaning tools after use, storage of tools in a safe place/ storeroom, following manufacturer's instructions, oiling of tools, greasing of tools, sharpening of tools etc.

3 (a) (i) Most candidates performed poorly in this question. Most candidates failed to recall advantages of sprinkler irrigation method. Most common answer given by candidates was that the sprinkler provides equal amount of water to crops. Facilitators in Centres need to be as broad as they can when they teach this topic because even in the past candidates struggled to explain methods of irrigation.

(ii) Candidates did fairly well in this question, they knew how drip irrigation method work as they referred to plastic pipes as drip lines.

(iii) The question was fairly done. Some candidates could not recognise the furrows and thought they were drip lines hence they gave wrong answers. The most common answers were soil type and drainage.

(b) (i) Most Candidates performed badly in this question. Most candidates wrote Mexican poppy, blackjack, pig weed, thorn apple as answers instead of witch weed / striga species. Centres need to emphasise more on witch weed as they deliver their content.

(ii) The question was poorly done. The candidates did not have an idea about annual, biennial and perennial weeds. Most candidates left the question blank without even attempting it. It is like they were not taught classification of weeds based on life cycle. One of the common wrong answers given was morphology.

(iii) The question was poorly answered by candidates. Most candidates got only one mark from the available 4 marks. Most benefits given were not for the bean crop but general effects of weeds on crops. Some of the answers given are it reduces pests/ diseases, crops will grow healthy because they will be no herbicides.

(c) (i) This question was fairly answered by candidates. Most candidates managed to recall that a tank contains the chemical solution. Most candidates failed to recall that the part that releases

pressure is the trigger / spray control instead they wrote lever, pump, pressure / delivery pump etc.

(ii) This question was poorly done by most candidates. The candidates talked about washing the tank instead of washing the inside of the tank. They also talked about general oiling of parts instead of oiling the felt sealing washer of the air chamber.

(iii) Most of the candidates performed fairly in this question. Some candidates seemed to have serious problems with mathematical computations. Some candidates failed to show their work step by step until they arrived at the answer. Facilitators at Centres are encouraged to give learners more practice in questions with mathematical computations.

Answer: 48 000 *l*

4 (a) (i) This question was well done by candidates. Most candidates were able to recall that a combined harvester is used to harvest sorghum. Other possible answers are grain header and forage harvester.

(ii) This question was fairly done by the candidates. Most candidates recalled only one safety measure which was wearing of protective clothing, and this resulted in them getting a mark instead of the 2 available. The safety measures are very important and so facilitators need to emphasise their lessons.

(iii) This question was fairly answered by candidates. Most candidates managed to get the age of maturity correct (3 - 4 months) but struggled with stating the signs of maturity for maize which include: moisture content, husks turn pale brown/ khaki; papery husks, leaves/whole plant dries, cobs hang down, hard/glossy/shiny grains.

(b) (i) This question was fairly done by candidates. The common correct answers given by candidates are advertising and quality.

(ii) This question was fairly done by candidates. The common correct answers given by candidates were size and quality.

(iii) The question was fairly done. The common answers given by candidates were quality and variety.

(c) (i) The performance of candidates in this question was very good. Some common answers given by candidates are free from pests, well-ventilated/ cool storage and waterproof.

(ii) The question was fairly done. Most candidates were able to define winnowing, but they dismally failed to give its importance resulting in them getting a mark out of the available 2 marks.

(iii) Most candidates did well in this question. However, there were some candidates who were general in answering the question giving answers such as poor soils instead of being specific and writing poor soil fertility. The candidates still managed to get the possible solution correct as they wrote addition of fertiliser.

5 **(a)** **(i)** The question was well answered by most candidates. Candidates were able to recall examples of legume fodder crops. Common answers given include lablab and soya beans. Some candidates wrote wrong answers such as maize and Napier grass.

(ii) Most candidates performed fairly in this question. The most common answer given was it is easy to carry out management practices.

(iii) Most candidates did well in this question. It was clear they were taught how calculate plant depth. There were a few errors where candidates wrote 3 mm × 3 mm / 3 mm + 3 mm = 6 mm.

Answer: 9 mm

(b) **(i)** This question was well done by most candidates. The candidates correctly wrote chemical control as a method that pollute the environment. A few wrote wrong answers such as biological and pesticides.

(ii) The question was well done by most candidates. Most candidates understood what biological is. There were a few candidates who described it as the use of traps to catch rats.

(iii) Most candidates failed to name the cultural control methods and to suggest how they can control the locust in the diagram. Candidates mixed biological, physical and chemical control method. Where candidates gave a correct method like crop rotation, they failed to explain how it controls the locust. Centres are advised to fully explain these methods to learners.

(c) **(i)** The question was fairly done as most candidates managed to get a mark from the available two marks. Most common answers written by candidates include to be used during drought, for future use and for it to last longer. Some of the expected answers are to conserve nutrients; to feed livestock throughout year; to increase shelf life/ prevent spoilage; to increase palatability; to reduce wastage; to improve digestibility; to maintain forage quality.

(ii) The candidates performed poorly in this question. Candidates failed to differentiate standing hay from hay. The candidates were expected to provide both sides of the argument like if standing hay is less nutritious or less palatable then there must be an argument about hay being more nutritious or more palatable.

(iii) The question was poorly done. Some candidates could not tell that the process was silage making as they included steps for hay making like baling, drying and tying.

PAPER 2: PRACTICAL TEST

General Comments

This is a practical examination paper targeting Assessment Objectives 2 and Assessment Objectives 3. Through this paper candidates are expected to identify and make observations from specimen provided and to draw some logical conclusions that relate to the specimens. The paper also allows candidates to demonstrate their ability to manipulate data and to arrive at critical decisions based on the data provided. The paper evaluates the readiness of the candidates to apply the knowledge they have acquired in the syllabus. The paper consists of two questions, the first one focused on the specimens while the second one focused on data manipulation.

The performance of the 2024 cohort is better than 2023 cohort in terms of understanding and interpretation of the given information/specimens displayed. They needed to be given more practice on plant diseases and classification of diseases as majority of them were recalling the diseases that they know under classes of the diseases instead of writing the diseases that is displayed and the ones they are observing on the specimens provided. For example, if the disease displayed is leaf spot under bacterial disease, they write any bacterial disease that they recall like bacterial wilt. They also need to be practiced on following instructions given on the items/questions as they must use the information/observation on displayed specimens rather than using recalled information from prior theoretical knowledge. They needed more practice on diseases, fertilisers, and farm diary description so that their performance becomes better.

Comments on Individual Questions

1 (a) (i) This item was poorly performed as the cohort gave random names of plant diseases even instead of the ones displayed on the specimens. However, the candidates managed to observe that it is a bacterial/fungal/viral disease. They failed to write the classes of the diseases instead they were writing the pathogens for example bacteria/fungus/virus instead of writing bacterial/fungal/viral.

(ii) Majority of the candidates failed to suggest the type of mouthpart but were able to give an example of a pest.

(iii) Most the candidates were able suggest appropriate chemicals for use to control diseases and performed very well in this item.

(b) (i) Majority of the candidates were able to state the nutrient deficient that was displayed and were unable to describe the unique symptoms instead they were giving the general symptoms that they know instead of the ones observed. For potassium they performed poorly as they were just writing brownish leaves instead of brownish on the leave edges and for calcium none of them got the correct unique symptoms/they did not access the marks at all under calcium.

(ii) Majority of the candidates failed to write the names of fertilisers to correct the deficiency instead they were writing the trade/brand names of the fertilisers. For example, instead of writing Potassium Nitrate they were writing KEMAPCO which is the brand/trade name and for LAN/KAN they wrote CULTERRA which is also a brand/trade name. That is where most candidates lost most of the marks.

(iii) None of the candidates accessed marks from this item as they were writing exactly the timing to apply the fertilisers for example responses like early morning / late afternoon / spring / autumn / winter / summer instead of writing responses like before planting / basal dressing / after planting / top dressing.

2 **(a)** Majority of the candidates accessed marks as they showed understanding of how information in a farm diary is entered. They were able to describe the activity and reasons for carrying it out and tools / implements used. However, for basal dressing some candidates omitted quantities of fertilisers and just wrote the names of fertilisers. For planting some also omitted the depth of planting and seeds rates.

(b) Majority of the candidates accessed marks in this item as they have shown the understanding of preparing profit and loss account as they correctly distinguished between the expenses and income hence entered them well. They displayed mathematically ability to compute total costs and income per items as well as total income and expenses and profit and loss. This was performed very well by majority of the candidates. A few candidates did not calculate the profit/loss and the space that was left for them to do the calculations and write the final figure they were writing the word profit not the figure because they did not calculate the profit/loss.

PAPER 3: PROVIDER BASED ASSESSMENT

General Comments

This is a general report about the performance by the 2024 cohort of candidates registered and assessed under Field Crop Production. Average mark from the Centre was higher than the moderation average mark and this shows that the Centre was too generous in awarding candidates some marks.

The Centre had submitted all the four provider-based assessment deliverables for the Field Crop Production summative assessment and the other coursework essentials such as summary marksheets, Centre order of merit and scores for the various coursework items. It should be noted that the final marks recorded in the summary marksheet should be rounded off to the nearest whole number.

This report comprises four main parts: Farm Diary, Field Practical Training (FPT) report, Field Observations report and the Practical Tasks Assessment reports.

Farm Diary: Compared to 2023 generally, there has been an improvement in the presentation of the farm diary as most of the farm diaries were presented very well. Furthermore, all the 37 diaries were typed and none of them was hand-written. The candidates were able to document an outline of activities they performed when undertaking their Field Crop Production projects. They recorded their day-to-day occurrences very well. All candidates had recordings about details of one field crop being the maize crop. All the candidates had bound their farm diaries neatly in quotation files.

Field Practical Training (FPT): The Centre submitted enough evidence that suggested that the candidates were attached to Seleka Farm and JJ Vegetable Farm for real industry situation to gain hands-on experience. The candidates were placed under various farm enterprises where it was expected that the candidates would be afforded an opportunity to perform some field crop production practices or activities.

Generally, the presentation of the candidates' works was neat and well-organised, however, some FPT reports were not bound securely. It was observed that all FPT reports had been typed. There were no hand-written reports. However, there were still some differences in the use of fonts and font sizes as compared to last year's reports (of 2023) where some font sizes used were outrageously bigger. There was also some improvement in showing some creativity in the presentation of information by the candidates. Candidates need to demonstrate refined skills in the use of ICT in report writing since it is believed that they have unlimited access to ICT at their Centres.

Field Observations Report: This Field Observations assessment required candidates to produce a detailed report of the scientific observation carried out during the course at their centre. Through the scientific observations facilitators were to assess the candidate's capabilities on carrying out a systematic study.

Practical Tasks: This are the Practical Tasks performed by the candidates as a way of enhancing learning of the practical aspects of Field Crop Production. The performance of the candidates was better than the performance of the previous year's cohort. Even though the tasks are not externally moderated, it is important that the Centre provides adequate evidence including video clips of the candidates actually doing the practical task for the work of the candidates to be validated. Continual failure of the Centre to provide such crucial piece of evidence jeopardises the validity and reliability of the marks submitted by the Centre.

Comments on Individual Tasks

1.0 Farm Diary

1.1 Cover Page

The cover page was well done by most candidates, and this showed an improvement from 2023. Most candidates did well in providing the required details for the name of the production enterprise as Fodder Production. However, a few candidates did not name the production enterprise correctly: they wrote “growing a fodder crop”. All candidates did well by providing details of the name of candidate, candidate number, and the name of centre.

The dates for starting and completing the enterprise were also provided by all candidates. For this year the candidates managed to indicate the labels for starting and ending dates separately as advised in 2023.

1.2 Enterprise Details

Variety grown – Most candidates did well by providing the name of a crop variety planted.

Age – All candidates did well by indicating the age of plants at the end of their project. Candidates indicated that their plants were 3 months old at the time of harvest.

Plant Populations – The plant populations recorded were different across the candidates as some candidates had recorded initial plant population whereas the other candidates had recorded the plant population as at the time of harvesting. Once again, the Centre should encourage candidates to write the plant population at the initial stages of planting.

1.3 Sequence of Activities

Activities carried out in correct order – this section was well done by most candidates as the activities recorded were in their correct order.

Dates reflected for every activity – compared to the cohort of 2023 most candidates did slightly better on this part. However, some candidates did not record correct dates while for others there were no dates for some activities. It is reiterated that candidates should present their work such that every activity has a date for full credit.

1.4 Activities / Operations

Relevant activities reflected in the diary – all the candidates did very well by providing some relevant operations for their enterprises. They had provided many more than the required threshold / minimum number of ten (10) activities.

This cohort also did better than the previous cohort of 2023 for activities that were repeatedly done such as watering, cultivation and weeding. Whenever a candidate repeated an operation then a different reason was given.

1.5 Tools Used

Tools used for every operation reflected – Most candidates used a lot of different tools during their enterprises, and they met the set standard of a minimum of ten (10) tools. A tool was recorded for every activity done.

Appropriate tool used for each activity – Most of the tools used were very relevant for carrying out the activities at hand. The candidates had attached every tool used to a specific activity carried. However, there still were some candidates who just listed tools used without attaching them to a specific operation. Such instances were few under the description of activities such as land clearing where there were multiple tools used (e.g., spade, rake, pickaxe, wheelbarrow, etc) but without a specific use mentioned.

1.6 Importance of Activity

Significance of carrying out each operation –most candidates were able to give the significance of carrying out each operation. They gave two valid reasons for carrying out each operation. Just like in the previous year the reasons were written correctly as they appeared under the activity description column.

1.7 Relevance of Comments

Comments made relevant to the activity – this was well done as most candidates met the minimum requirement of ten (10) relevant comments. The recommendations given here were written in their separate column when compared to the past years. Most comments/observations were relevant to the activities mentioned therein.

1.8 Precautions Observed

Most candidates gave more than three (3) precautions. The candidates salvaged a mark under this section as they demonstrated some regard for safety, health and the environment while carrying some practical activities on the field.

Safety precautions observed for activities –most of the candidates who scored marks had attempted observation of precautions in a few of their activities during their projects. However, the precaution about wearing protective clothing was somewhat general for most candidates. Candidates should specify the clothing items worn and reason, e.g. a respirator/mask worn to prevent inhalation of toxic fumes.

Most candidates indicated cleaning of tools after use and safe storage of equipment after use for almost all the activities reflected in the farm diary. The candidates demonstrated the expected proper behaviour after using equipment and tools.

1.9 Project Termination

Description of how the project was ended – Most candidates were able to describe how their project was terminated. They had indicated many activities which included harvesting, preservation, feeding of animals, removal of crop residues and handing the land back to their Agriculture Department. It is reiterated that the candidates should describe in detail how the project area was treated at the end of the project.

Description of how the products and residues were disposed of – all candidates did well by indicating the disposal of the products. However, they did not specify the crop residues disposed, as they only wrote that they “removed the lablab crop residues”, instead of reporting that they “uprooted the remaining lablab roots/stubs.”

Observations about project viability – this was fairly done by all the candidates. The candidates were able to state the viability of their projects, but the reasons given were not clearly stated. Candidates also stated one reason instead of two reasons for viability of the projects.

1.10 Neatness of Work

Most of the farm diaries were cleaner. However, a few farm diaries were not neat, as they still had some degree of untidiness because of the reprographic effects such some ink stains from the printer used.

2.0 Field Practical Training Report

2.1 Cover Page

Most candidates did well by providing all the expected details and managed to score all the available marks for the cover page.

2.2 Title Page

The title page was well-designed by most candidates. The candidates managed to provide all the details required. Some candidates did not append their signature on the title page while others did not write the date of submission.

2.3 Content Page

Most of the expected details were there on this page. In all the reports there were appendices, but for some candidates' there were no page numbers in the table of contents (TOC). The fonts and font sizes used were consistent and pleasant to see. Most of the candidates wrote the main heads in upper case as required in the table of contents page. They were able to indent the subheads but at times some candidates wrote the main heads in a disorderly manner.

2.4 Declaration of Originality

Most candidates gave clear statements of originality and provided all the specific details required and scored all the marks for this criterion safe for a few candidates who often missed the total marks by omitting just one detail such as the name of the farm where FPT was done.

2.5 Acknowledgements

Most candidates did well by acknowledging individuals who played an important role in the success of their FPT. Most candidates also met the minimum requirement of acknowledging at least four people except a few who acknowledged only three personnel that rendered the services and what services were rendered.

2.6 Introduction

Generally, the introduction was well done. Names of the farm where they were attached for FPT (i.e. Incuhive Entreprises). The candidates were able to clearly justify the choice of that farm. The most common reason often given was that the farm had almost everything that was needed by candidates and that it had the most qualified personnel for training learners on FPT.

Most of the candidates' expectations prior to FPT were clear. Candidates should only report on their expectations prior to their attachment. Mostly candidates stated only one benefit from the FPT attachment. There were instances where it was unclear as to how candidates were to benefit from the FPT exercise.

2.7 Description of Farm Routine

Most candidates clearly indicated the number of workers on the farm (staff complement) by indicating the number of personnel employed under each section of the farm. However, for some candidates this was only deduced by inference from the organogram that had numbers of personnel indicated under each division.

The candidates also provided the qualifications and/or areas of specialisation for the employees in the farm. But for those employees who were only classified as workers there were no qualifications for them and no indication was made that they were unqualified.

There has been a slight a slight improvement about what candidates should report on the daily work schedule by farm employees. However, some candidates kept on writing “we did this and that” instead of describing the routine schedule for the farm employees only. The candidates also indicated operating hours for the farm workers, but they left out the required descriptions of details of specific daily duties carried by the farm employees. A few candidates didn’t state the times in the work schedules. Candidates can simply draw a table showing operating times and activities done on the schedules to organise their presentation better.

Most candidates did well in describing the tools, implements, machinery, and technologies used and what they were used for. However, the details provided were just scanty.

The workplace interaction was clear. This was adequately addressed clearly by illustration of the hierarchy on the organisational structure flowchart.

Most candidates reported clearly about how the farm records were kept as they wrote that ‘the records were computerised.” There were still instances where candidates did not seem to understand what is required for technology leverages in record keeping. Under technology leverage candidates are expected to indicate the type of technology used and how it is advantageous or useful to the farm.

Most candidates satisfactorily provided the descriptions of how the products were prepared for the market. The candidates described how the products were “packaged/cleaned” with little in detail how the marketing activities were done. The candidates reported that the Incuhive farm made profits because the expenses were said to be lower than the revenues collected but there was no evidence to support this conclusion.

2.8 Description of Activities

Most candidates did well in describing activities carried out and mentioning of materials/tools/equipment used.

Suggestion: it is reiterated that candidates can use a tabular presentation of activities done by candidates since it organises their information better into columns and rows than in continuous writing.

2.9 Findings

This section is still not clear to candidates as most of them did not do well in describing their findings because there was no correlation between the list of expectations initially set by the candidates at the Introduction section and whether they were met or not met.

There was very little improvement since most candidates still did not even state the learning expectations not met let alone how the gaps were to be closed. However, the candidates were able to articulate the unexpected learning experiences and their usefulness to them.

2.10 Conclusions

This section was well done by most candidates. Candidates did well by stating the worth of the attachment exercise and the lessons learned during the FPT. Their conclusions were somewhat relevant to farming

experiences. However, only a few candidates managed to describe how the learning experiences can be made better for them to get maximum benefits from the FPT attachment.

2.11 Recommendations

This section was fairly done by most candidates. Most candidates stated only one instead of practices to be maintained and for some improvement of the farm. A few candidates recommended for some farm practices to be discouraged.

2.12 Rating by Training Officer in Industry (TOI)

Candidates were awarded marks based on the ratings by TOI. Most candidates were rated highly by the TOI as a result they managed to access excellent marks.

2.13 Overall Report Quality

There was evidence of creativity in the candidates' presentation of their work. There were illustrations such as organograms, pictures, tables, etc. However, all the reports were not sequenced properly as the arrangement of the report pages did not correspond to the order in the table of contents.

The quality of binding was not pleasing in some reports that were bound in quotation files. This binding was not secure because the report pages were just loosely inserted into the file without punching and securing them with the binder. The pages were not easy to flip and they were not securely bound.

Appendices

Most candidates did well by appending documents that served as proof that the FPT attachment was carried out by the candidates. However, all candidates did not append the request letter as required instead only one copy of the request letter was provided by the Centre as evidence. The arrangement of the appendices did not correspond with the order prescribed in contents page. Candidates also failed to provide evidence of consent form from parents.

There has been some improvement and consistency in the contents appended in the appendices. The attachments were standardised and therefore there were no free styles as compared to the cohort of 2023.

All candidates attached samples of records kept in the farm (namely pesticides record, invoices for vegetable sales and a summarised sales record). However, some candidates provided only one sample of records e.g. records on sales of butternuts only. There were some pictures of the farm, farm operations and equipment used on the farms. Once more the Centre is hereby advised to ensure that candidates include some labels descriptive captions for the pictures to clarify the illustrations.

3.0 Field Observations

3.1 Title of Investigation

For this year most candidates did well in presenting titles of the observations that had the element of comparison in their observations. Only a few candidates presented titles without the required element of comparison to be introduced into the observation. Such titles did not clearly indicate that the investigation was a comparison study. All candidates did well by reflecting the factor to be observed as the parameter measured on their titles.

3.2 List of Equipment / Materials Used for Investigation / Inputs

Candidates were provided with a common list of inputs used for the investigation at the Centre. Most candidates listed all materials / equipment suggested but managed to list most of those inputs. However, all the candidates whose observation involved the measurement of plant did not list all the required equipment/materials, as a result they could not access all the marks for this criterion.

3.3 Objectives / Aims of Observation

Most candidates were able to state the objectives that were relevant to titles (by having a crop, parameter, treatment and had the element of positive direction: increase); achievable (possible), measurable (with a specific parameter). However, only a few candidates did not present complete objectives as they often lacked the element of comparison for the factor manipulated.

3.4 Statement of Factor to be Observed

Most candidates presented a clearly articulated problem and its possible causes. They also did well to suggest some possible solutions to the factor / problem observed by re-stating their statement of objective to offer a proposed solution.

How the proposed solution will be of benefit to the user – most candidates were able to state how the proposed solution will benefit the farmers.

3.5 Factor to be Compared / Contrasted / Manipulated

Most candidates did not state clearly the factor to be observed as the majority of them had written their statements of objectives for one to infer.

Most candidates were able to introduce the factor of manipulation clearly. However, some candidates were not able to state how the factor to be manipulated was introduced into the observation as they only stated the treatments, quantities and methods of application. It is very important for candidates to indicate how the manipulated factors (conduct of treatments) were introduced into the experiment. Candidates should clarify “in which plots were the treatments applied”.

3.6 Number of Units per Treatment / Manipulation and Size of Unit / Age

The candidates’ field observations comprised experiments conducted on two test treatments. Most candidates did very well by stating the number of plots per treatment

Candidates also justified the number of replications. They also provided reasons for not replicating the experimental units/treatments for example they had decried lack of resources (such as time, seeds, land, fertilisers) as the main reason.

3.7 Layout / Sketch Plan of Investigation

This section requires candidates to provide a complete and well-illustrated or labelled sketch plan to indicate how the field observation was laid. All the sketch plans were complete and were clearly labelled out. The treatments were clearly shown on most of the layouts / sketch plans. They also included a legend/key to describe the labels on the layout.

All the candidates indicated the title for the sketch plan distinctively as they underlined the statement intended for the title. This shows that there has been some notable improvement from the submissions by the previous cohorts.

Candidates should be encouraged to provide a sketch/layout that is fully labelled to make it more descriptive. It is reiterated that for a complete and well-illustrated or labelled layout the candidates should include a bare minimum of the following details: underlined title; appropriate dimensions / size; and treatments / manipulations / key; for full credit, but the more the merrier.

3.8 Approach / Procedure

Compared to the 2023 there was a slight improvement. This cohort presented the description of procedures followed that were still general or less descriptive with some scanty descriptions of the activities carried out.

Step-by-step account of what is to be done – most candidates indicated that they had one treatment, instead of two treatments. They still harbour thoughts that one of the treatments must be the control treatment. Furthermore, the candidates provided scanty details of how the factors of manipulation were applied/conducted.

Steps numbered in correct sequence – most candidates did well by writing their procedure in a numbered and sequential manner. However, some candidates still failed to describe in detail how the data was collected. They did not provide a descriptive account of how the measurements were taken, instead they merely mentioned that “a weighing scale was used for collecting data” without elaborating on how the actual weighing was done. Candidates should fully describe all the steps taken about how the data was collected.

For this year there were slight variations in data collected by candidates. This time there were candidates who measured other parameters such as height. This has reduced duplication of data collected amongst the candidates who shared resources.

Ease of following procedure – most procedures were somewhat descriptive except at the conduct of treatments and data collection where some important details were not indicated leading to loss of marks for this criterion.

3.9 Information Collected / Data

What is to be observed / units of measure – Most candidates did very well by stating what was measured as the mass/height of plants. The candidates clearly stated the correct units of measure for the observations made.

Instruments / devices used for collecting data – Most candidates did well as they mentioned the use of a Micro Ace digital way indicator scale for weighing the crop produce and the measuring tapes for observing plant height.

How the collected data is going to be recorded –most candidates stated that they used a table for presentation of their data. Only a few candidates did not state the form of presentation for their data. The table was an appropriate form of presentation to present both the raw data and the analysed data.

3.10 Analysis of Findings / Implications of Findings

Most candidates did slightly better than the previous candidates of 2023. All the candidates had presented their findings on a table.

Form of presentation / table / charts/ graph - Most candidates wrote a title that did not have the statistical parameter, and this made the titles less descriptive. All table rows were correctly labelled with specific names of the experimental trials, except that some candidates had wrongly indicated that one of the

experiments was a control. The physical quantities indicated on the table columns were also written correctly, e.g. the candidates wrote mass/kg, height/cm and biomass/yield in kg per m2 (kg m-2).

Relevance of presentation method - Candidates did very well by using a table as their form of data presentation. This was a relevant choice.

In comparison to the previous cohort, who did not present an overview interpretation of the findings at all in their reports, this class of 2024 attempted to give an overview of their findings. However, they did not indicate the statistical parameters and the crop when writing a concluding statement of how the results/ major findings reflect on the title of the observation. This statement should include the field crop, treatments and the statistical parameter calculated.

3.11 Conclusion

The conclusion was not so well done but there were some areas where there has been a slight improvement compared to all the previous cohorts.

Re-stating the purpose or question looking for answer – all candidates were able to re-state the purpose or the research question that was looking for an answer. The candidates achieved this by writing the objective of the observation.

Explaining briefly the findings of the observation – most candidates were able to explain the result trends however, but none of them could suggest some supporting reason/s for the trends.

Providing an answer to the observed factor – most candidates were able to suggest an answer to the research question. Candidates were expected to indicate this by writing their major concluding statement here and they could even state the extent to which the investigation met its aims / objectives.

Explanation of unexpected outcomes / errors made – this part was poorly done by all the candidates. Those who attempted to explain this could not land on how the outcome could have affected the growth of plants. The candidates are expected mention any non-treatment factors that might affect the outcome of the experiment.

Statement of take-home finding made from observation – reflecting on the candidates' work there were no indications that there were other lessons learned from the entire observation.

3.12 Recommendations

State the actions to be taken based on observation - generally most candidates did well by suggesting the appropriate actions to be taken based on their findings. However, most recommendations were not consistent with the findings.

Any modification to procedure to ensure accurate results – there was improvement on this part as candidates suggested an "increase on the number of plots" for modification of the observation procedures.

3.13 Precautions / Safety, Health and Environment

Identifying safety, health and environment threats – most candidates managed to identify some safety and health threats during the observation. Their reported actions reflected accurate adherence to SHE concerns mostly on wearing of protective clothing and some regard to safe storage of tools and equipment. However, none of the candidates mentioned any threats to the environment.

No candidate was able to suggest an intelligible mitigation to SHE threats.

3.14 Alignment to Existing Literature

How the observation relates to existing literature – none of the candidates was able to relate their observations to existing literature.

Two correctly formatted references used – only a few candidates were able to correctly format the references using the APA 7 style.

4.0 Practical Task Assessment

The Centre has duly submitted the candidates' portfolios as evidence that all the tasks assessed as stipulated in the Teaching Syllabus. However, there were still some gaps in the submission of all the required evidence surrounding the portfolios. The evidence is useful for validation of the Provider-Based Assessment of practical tasks for subsequent inclusion into the summative assessments. The Centre is hereby reminded that, the Field Crop Production Assessment Guide emphases that the evidence of assessment is supposed to be sought from the portfolio of evidence maintained and kept by the Centre.

Furthermore, some video clips at the prescribed ranges of marks should be kept for presentation to the moderator as evidence. Unfortunately, this assessment requirement has not been fulfilled by the Centre since 2022 to date. It is hoped that in future there should be some improvement in fulfilling this assessment requirement for validation purposes.

This year's computation of marks was somewhat better than last year's. However, some average scores were arrived at because of repeated rounding-off, which resulted in negligible differences of ±0.04 marks (refer to Appendix C). Furthermore, there were still some irregularities and inconsistencies when computing the total marks for each task by the Centre. One facilitator did not compute the total marks on the individual marking rubric sheets for all the 5 modular tasks (for 19 candidates).