



PulseAfrika

SAQA ID
49009

DURATION
12 Months

CREDITS
142

SETA
AGRI

NATIONAL CERTIFICATE:

**PLANT
PRODUCTION**
NQF Level 4



PURPOSE AND RATIONALE OF THE QUALIFICATION

The purpose of this qualification is to allow Supervisors to progress towards a Junior Farm Manager position with specific reference to Plant Production. The contextualised purpose and usage of the qualification is as follows:

- A learner assessed against this qualification will have the necessary competence to manage Supervisors and working teams, performing the agricultural processes as applicable to Plant production in a range of Plant Production taking responsibility for the quality and quantity of outputs.
- The Learner will be able to take complete responsibility for her/his own actions and also take responsibility for supervising others at lower levels within an Plant Production context under broad guidance and evaluation.
- Competency will be gained in any of the specialized sub-fields of Plant Production as specified under Areas Of Specialization (i.e. Vegetables, Fruit Production, Hydroponics, etc.) with a strong focus on management.
- The learner will be able to take responsible decisions within a wide range based on a sound understanding of the basic principles of agri-business and good agricultural practices, in meeting the set objectives and targets within the broader farm plan which includes the economical application of general resources, agricultural production and technical knowledge and skills, all in an

Plant Production context.

- The Learner will be able to oversee the implementation of a wide range of procedures and will be able to ensure the relevant safety, quality, hygiene and technical standards as applicable within the industry.
- In addition to the above, the learner will be well positioned to extend learning and practice into other sub-fields such as Plant Production and Mixed Farming, since such efforts will only require additional learning within the elective scope of other qualifications at this level.
- The learner will be well positioned to progress towards higher levels of Management and Technical production practices as defined by qualifications at the next level.
- Learners will be enabled to actively participate in the Primary Agricultural Sector through the production of quality agricultural products, enhancing the overall agricultural process and gain opportunities to access local, national and international agricultural markets.
- This qualification will allow qualifying learners to become economically active in farming practices that will have a direct impact on Local Economic Development through the production of food, the improvement of household food security and access to mainstream agriculture.
- Finally, Learners will be able to guide and direct others in terms of the planning, implementation and control of development projects within a Plant Production context.

Rationale

The range of typical learners that will enter this qualification will vary and includes:

- Farm operators who wish to progress to the level of junior farm manager;
- Learners in possession of different levels of practical experience in farming operations, which will be assessed and RPL'ed;
- School leavers (Gr. 12) from agricultural schools; and
- Learners may come from both genders.

The learner will engage in farm management and operational activities relevant to Plant Production.

Requests and expressions of need for this qualification, coming from the broad, but also specific farming communities (Plant Production) forms the basis for the development of this qualification.

This qualification will form the basis for learners to extend their learning into more specialised areas of plant production and provides the basis of the establishment of sustainable farming operations through the inclusion of a wide spectrum of competencies required by farmers in South Africa. Whilst technical production orientated competencies are ensured, other aspects such as agri-business and good agricultural practices are included in the range of competencies required by farmers in order to enable them to strive towards agricultural management standards and practices at higher levels.

Competent qualifying learners in this qualification will oversee quality agricultural products in Plant Production whereby enhancing the overall agricultural process and gain opportunities to access local, national and international agricultural markets.

EXIT LEVEL OUTCOMES

Exit Level Outcomes are divided into four categories of competencies, namely:

- Fundamental Competencies
- Agri-business
- Good Agricultural Practices
- Plant Production

Fundamental Competencies:

1. Apply communication skills in an agricultural environment.
2. Apply mathematical calculations within the agricultural environment.
3. Implement a data collection plan in the agricultural sector.

4. Plan and maintain environmentally sound agricultural processes by identifying knowledge processes and patterns of the environment in the region, and understanding the limitations of resources and how their management contributes to sustainable interactive agriculture, using environmental indicators.

Agri-business:

5. Manage stores and agro-inputs in stores.
6. Implement quality control aspects of an agribusiness.
7. Demonstrate ability to development of an integrated marketing plan.
8. Demonstrate the ability to develop an integrated whole farm budget.
9. Apply principles of human resources management in an agricultural environment.
10. Participate in the analysis, planning and management of an agri-business.
11. Describe the historical and current structure of the relevant industry within secondary agriculture.
12. Evaluate and adjust the enterprise and production processes of animal and crop enterprises.

Agricultural Practices:

13. Implement a management system related to food safety, production practices, as well as demonstrate environmental and social awareness within the agricultural supply chain.
14. Apply principles to design, prepare and implement basic operational procedures for the maintenance and storage of equipment, implements and infrastructure.
15. Implement corrective actions to ensure water quality.
16. Implement a natural resource management plan of the farm in relation to area wide planning.
17. Maintain the most appropriate land-use on a farm by continuously assessing the natural resource base.

Plant Production:

18. Explain the different physiological processes involved in the growth and development of the plant.

19. Establish and supervise the implementation of soil preparation procedures
20. Propagate plants in a variety of situations
21. Demonstrate an understanding of an integrated pest management system
22. Develop a harvesting plan for crops.
23. Implement a plant manipulation management plan using a broad range of techniques.

ASSOCIATED ASSESSMENT CRITERIA

Fundamental Competencies:

1.

- Simple presentations are made.
- Situations, reasons, implications, concepts, underlying principles, and check for understanding and adjust message are explained.
- Conditions, situations and events, using data are reported on.
- Work instructions are given.
- Events, situations and conditions are summarised over time.

2.

- Data is represented in graph and table form.
- Trends are plotted.
- Percentages from collected data (statistical calculations) are determined.
- Measurements are accurately.
- Calculations per area performed.
- Financial implications of personal and business related issues are investigated and monitored. Ratios are determined according to prescribed parameters e.g. mixtures, crops.

3.

- A data collection plan is interpreted.
- A data collection plan is implemented.
- Collected data is analysed.
- Collected data is presented.

4.

- Sustainable agricultural processes and/or practices are planned and maintained, taking into account the four components of the environment.
- Practical and efficient natural resource use is applied.
- Environmental indicators are identified and used.

Agri-business:

5.

- Agricultural inputs are received and checked.
- Records are updated and shortcomings identified.
- Payment is processed.
- Re-ordering is scheduled.
- Agricultural inputs are issued.
- Legislation is enforced.
- Equipment and facilities are inspected and maintained.

6.

- Availability of resources is determined.
- Sustainable resource utilisation is ensured.
- The size of the enterprise is determined.
- Quality control is integrated into the production process.

7.

- A marketing plan is structured.
- A risk plan is structured.
- Remedial actions is identified.

8.

- Whole farm budget is prepared.
- A sensitivity analysis is demonstrated.
- An information system is developed.
- Managerial information is extracted from information system.

9.

- HR Policy is developed.
- Practices, principles, policies and procedures is communicated.

- Implementation plan is developed.
- A HR monitoring plan is implemented.

10.

- The general management functions as related to agri-business is described.
- A systems approach to agricultural production is explained.
- The components of a rolling agri-business plan is explained.
- An information management system is implemented.
- A risk plan is described and implemented.
- Reported non-conformances in respect of food safety, production, environmental and social practices and implement corrective action in the agricultural environment are remedied.
- Internal audits according to the specifications of the trade/market in the agricultural environment are conducted.
- Standard operational procedures with regard to agro-chemicals, food safety, quality production practices, environmental and social awareness within the agricultural supply chain are maintained.

11.

- The historical and current framework of the industry is explained.
- Useful media is identified.
- Relevant Government Departments is identified.
- Legislation pertaining to the specific industry is described.
- Supportive resources is identified.
- The various relationships within the industry is explained.
- A task related maintenance programme is developed.
- Basic operational procedures for storage and maintenance is explained and implemented.
- Problem solving system is implemented.
- Safety regulations are implemented.
- The adaptation of equipment, implements and technology is explained.

12.

- The production processes, stock, harvest procedures and post harvest factors are evaluated and adjusted.
- The production processes, stock, harvest procedures and post harvest factors are integrated within the relevant enterprise.
- Enterprise processes are evaluated and adjusted so that natural resources required for the relevant enterprises are managed sustainably.
- Corrective actions are taken based on a correct analysis of water quality data.
- The impact of corrective actions is explained.
- Corrective measures are implemented correctly.
- The effects of corrective measures are explained.

Agricultural Practices:

13.

- Good agricultural practices (GAP) associated with good manufacturing practices (GMP), good health practices (GHP), good social practices (GSP) and good environmental practices (GEP) are maintained.
- Routine natural resource management practices and/or applications on the farm are assessed for efficiency.
- Preventative and/or rehabilitation measures are selected and applied.
- Activities related to alien eradication, erosion control, seasonal and climatic conditions, utilisation of natural resources are scheduled.
- Contributions are made to the strategic plan of the farm.

17.

- Collected and recorded information that informs the infrastructure development of an agricultural enterprise is categorized.
- High and low yield potential areas are identified according to a range of land use options and criteria.
- Maintenance tasks related to the natural resource base of a farm are organized.
- Sustainability-based farm layout innovations are monitored and maintained.

Plant Production:

18.

- The processes involved in cell division are described.
- The process of transpiration and its role in water uptake is described.
- The process of respiration in relation to gaseous exchange is described.
- The process of transpiration is described.
- Fruit maturity and ripening is described.

19.

- Nutritional programmes based on recommendations are set up.
- A soil utilization plan for specified crops is implemented.
- Full recommendations to remedy nutritional deficiencies are made.
- Soil improvement activities according to soil properties are managed.

20.

- Structures and facilities for various propagation strategies are identified.
- The asexual propagation of a range of plants is described.
- The utilisation of different types of propagation media and environments are described.
- A process for post propagation activities is described.

21.

- Basic trapping, monitoring and recording of pests, diseases and weeds are described.
- The principles of IPM are described.
- Different types of control measures in an IPM are described.
- The decision making process in IPM is described.

22.

- A complete harvesting plan is prepared.
- A maturity index plan is prepared.
- A health, hygiene and safety plan is developed.
- A waste disposal plan is developed.
- A maintenance plan is developed.
- A plant manipulation management schedule is interpreted and implemented.
- Appropriate hygiene and health standards are maintained.

NOTE: Assessment should be specific to the area of operation (i.e. Either horticulture or agronomy including but not limited to arable and/or dry land production).

INTEGRATED ASSESSMENT:

Integrated assessment at the level of the qualification provides an opportunity for learners to show that they are able to integrate concepts, ideas and actions across unit standards to achieve competence that is relevant and coherent in relation to the purpose of the qualification.

Integrated assessment must judge the quality of the observable performance, but also the quality of the thinking that lies behind it. Assessment tools must encourage learners to give an account of the thinking and decision-making that underpin their demonstrated performance. Some assessment practices will be of a more practical nature while others will be of a more theoretical nature. The ratio between action and interpretation is not fixed, but varies according to

the type and level of qualification.

A broad range of task-orientated and theoretical assessment tools may be used, with the distinction between practical knowledge and disciplinary knowledge maintained so that each takes its rightful place.

Generic Nature Of The Unit Standards And The Context Of Assessment:

Because of the diverse nature of the primary agricultural sector, a generic approach to developing the unit standards has been adopted. This resulted in generic unit standards which should be contextualised within a specific area of operation, a specific agricultural commodity or specific agricultural system. Assessment

therefore, should not be divorced from the context of application. All assessment tools, such as guides as well as the interpretation of unit standards and specifically range statements, should be contextualised within a specific agricultural commodity and/or system.

INTEGRATED ASSESSMENT:

It is assumed that a learner entering a programme leading to this qualification has achieved numeracy, literacy and communication equivalent to NQF 2 and technical skills pertaining to agricultural activities equivalent to NQF 3.

Unit Standard	NQF	credits
Apply effective and responsible integrated pest, disease and weed control	4	3
Assume co-responsibility and participation in human resource management	4	3
Demonstrate a basic understanding of the physiological processes in plant growth and development	4	3
Develop a harvesting plan for the specific agricultural crop	4	3
Establish a plan for the monitoring, safe use and maintenance of equipment implements, technology and infrastructure	4	3
Evaluate, adjust and implement factors influencing agricultural enterprises	4	3
Execute sustainable resource use and quality control	4	3
Give an overview of the industry structure	4	2
Implement a food safety and quality management system in the agricultural supply chain	4	3
Implement a natural resource management plan	4	3
Implement integrated farm layout and site selection	4	3
Implement soil fertility and plant nutrition practices	4	3
Manage plant manipulation methods of an agricultural crop	4	3
Manage water quality parameters	4	3

CORE MODULES



CORE MODULES

Participate in the development and management of an agri business plan	4	3
Participate in the development and management of an agricultural marketing plan	4	3
Prepare a whole farm budget and establish a proper integrated information system for an agri-business	4	3
Procure and manage agricultural input	4	3
Propagate plants in a variety of situations	4	3
Schedule the operation and maintenance of irrigation systems	4	3

59
Unit Standard
NQF credits
FUNDAMENTAL MODULES

Accommodate audience and context needs in oral communication	3	5
Interpret a variety of literary texts	3	5
Interpret and use information from texts	3	5
Write texts for a range of communicative contexts	3	5
Apply knowledge of statistics and probability to critically interrogate and effectively communicate findings on life related problems	4	6
Engage in sustained oral communication and evaluate spoken texts	4	5
Implement a data collection plan	4	4
Measure, estimate & calculate physical quantities & explore, critique & prove geometrical relationships in 2 and 3 dimensional space in the life and workplace of adult with increasing responsibilities	4	4
Plan and maintain environmentally sound agricultural processes	4	8
Read analyse and respond to a variety of texts	4	5
Use language and communication in occupational learning programmes	4	5
Use mathematics to investigate and monitor the financial aspects of personal, business, national and international issues	4	6
Write for a wide range of contexts	4	5

68

CONTACT US

T: 011 568 6629 **E:** info@apexu.co.za

A: 100 West Street, Block C. Wierda Valley, Sandton. **apexu.co.za**