



# PulseAfrika

**SAQA ID**

49052

**DURATION**

12 Months

**CREDITS**

120

**SETA**

AGRI

**NATIONAL CERTIFICATE:**

**PLANT  
PRODUCTION**  
NQF Level 3



## PURPOSE AND RATIONALE OF THE QUALIFICATION

A learner assessed as competent against this qualification will have the necessary competence to supervise and lead a working team performing the agricultural processes as applicable to plant husbandry. Furthermore, the learner will be able to take responsible decisions 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. The learner will also be able to adhere to and implement according to the level of supervision as well as the relevant quality, safety and hygiene standards as applicable within the industry.

In addition they will be well positioned to extend their learning and practice into other areas of agricultural commodities within a context of either agronomy, or horticulture as applicable to the agricultural commodity, or to strive towards agricultural management standards and practice at higher levels.

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

### Rationale

This qualification provides learners the opportunity to gain a qualification in Plant Production. The range of typical learners that will enter this qualification will vary and includes:

- Farm operators who wish to progress to the level of supervisor within farming operations in Plant Production;
- Farm owners, in possession of an equivalent qualification at NQF 2;
- Learners in possession of different levels

of practical experience in farming operations, which will be assessed and RPL'ed;

- Possible candidates for promotion identified by the community as leaders.
- Learners may come from both genders

The learner will engage in supervision 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 five categories of competencies, namely:

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

## Fundamental Competencies

1. Communication.
2. Maths Literacy.
3. Recognise, interpret and report on a range of deviations during the data collection process.
4. Incorporate basic concepts of sustainable farming systems into practical farm activities.
5. 5. Maintain stores and agro-inputs in stores.

## Agri-business

6. Participate in the production planning process on a day-to-day basis.
7. Apply the components of the marketing cycle in an alternative agricultural marketing environment.
8. Determine viability of agri-business.
9. Assist with the management of human resources in an agricultural environment.
10. Interpret the factors influencing agricultural enterprises and enterprise selection and production, and of planning accordingly.

## Agricultural Practices

11. Monitor and supervise the implementation of food safety and quality, production, environmental and social practices, and awareness within the agricultural supply chain.
12. Apply the principles of water quality management and adjust systems to ensure appropriate levels of quality.
13. Apply a routine maintenance and servicing plan.
14. Monitor practices to conserve the environment, including natural resources whereby ensuring optimal utilization of national resources on the farm.
15. Decide on appropriate land capability options for a given field.

## Plant Production

16. Identify and describe the physiological processes and anatomical structures of a plant.

17. Soil nutrient preparations are performed in a safe, effective and responsible manner for the benefit of plant/crop growth with consideration to the environment.
18. Plants are propagated in a limited range of conditions
19. Apply basic control measures for insects, plant diseases and common weeds.
20. Monitor and supervise the manipulation of plants by applying a broad range of techniques.

## INTEGRATED ASSESSMENT

### Fundamental Competencies

#### 1.

- Determined by selection.

#### 2.

- Determined by selection.

#### 3.

- Data is collected correctly.
- Tools and equipment required for data collection is utilised correctly.
- Data reports are submitted.

#### 4.

- A sustainable farming system is defined and described.
- The nature of a system is explained.
- The balance of sustainability, productivity and conservation of resources is explained.
- The sustainability of a whole farming system is monitored and re-evaluated.

### Agri-business

#### 5.

- Orders are received.
- Records are updated.
- Stock levels are maintained.

- Stock are issued.
- Suppliers are evaluated.
- Safety regulations are observed.

## 6.

- Production schedules are planned.
- Production choices are explained.
- The links between scheduling and financial planning is explained.
- Different scheduling techniques are explained.

## 7.

- The managerial vision of the agribusiness is explained.
- Alternative marketing environments are described.
- The variables of the marketing cycle are explained.
- Characteristics and critical success factors of marketing is explained.
- The supply chain is modified according to the requirements of alternative markets.

## 8.

- Sources of income are identified and explained.
- Costs are identified and explained.
- Break-even budgets are developed.
- Whole farm budgets are developed.
- Financial outcomes are predicted.

## 9.

- HR rules, policies and procedures are applied.
- Explain the role of stakeholders.
- Contracts are interpreted and prepared.
- Employment relations are explained in an agricultural context.

## 10.

- Requirements re natural resources and infrastructure for the selection of the relevant enterprise is recognized and interpreted.
- Infrastructure for the selection of the enterprise

is categorized.

- Appropriate crops and/or animals for the relevant enterprise are determined.
- The production procedures (including harvesting and post harvesting activities) are interpreted.

## Agricultural Practices

### 11.

- An understanding of the concept of traceability in the agricultural supply chain is demonstrated.
- Non-conformances with respect to food safety, production, environmental, and social practices in the agricultural environment are reported.
- Internal audits in the agricultural environment are explained.
- Food safety and quality principles as related to the agricultural supply chain are applied.

### 12.

- Abnormalities in water quality are recorded and interpreted.
- Environmental aspects of water quality management are explained.
- Corrective actions are taken to ensure the appropriate quality.
- Quality assurance systems are implemented and maintained.

### 13.

- Scheduling of routine maintenance is explained.
- A service plan is implemented.
- Maintenance procedures are applied.
- Tools, equipment and machinery are maintained.

### 14.

- The elements of an ecosystem and a food chain are explained.
- The occurrence of different types of fauna and flora and the sustainable utilisation thereof is monitored.

- Soil maintenance and water management practices are monitored.
- The energy cycle is explained.
- A 2 dimensional map of the direct vicinity is interpreted.

### 15.

- Soil survey results and physical observation are interpreted and used in decision-making.
- A land capability analysis to serve as the basis for appropriate enterprise selection for the farm is prepared.

## Plant Production

### 16.

- The basic functioning and structure of the plant cell.
- The effects of the environment on the physiology and germination of seed is explained.
- The anatomy and function of roots is explained.
- The anatomy and physiology of the leaf is explained.
- The anatomy and physiology of flowers and fruit are explained.

### 17.

- Soil nutrients are applied by using specialized equipment.
- The collection of samples, storage and dispatch of samples to appropriate service providers is supervised.
- The impact of the properties of soil on plant nutrition and soil preparation is explained.
- Nutritional deficiencies in various crops are interpreted and remediation is suggested.

### 18.

- Environmental requirements for the propagation of plants are described.
- General propagation procedures are

demonstrated.

- Environmental conditions are monitored correctly.
- The appropriate tools and equipment are applied during propagation.

### 19.

- Common pests are identified and described.
- Unfamiliar insects are collected.
- Disease symptoms are described.
- Incidence of weeds are reported.

### 20.

- The use of harvesting tools and equipment is explained.
- Maturity indexing is explained.
- Specific procedures for the harvesting of crops is explained.
- Health, hygiene and safety plan is implemented.
- Waste collection and disposal plan is implemented.
- The care and maintenance of tools and harvesting equipment is described.

### 21.

- The use of appropriate tools / equipment is monitored.
- Framework development as part of plant manipulation is monitored.
- Flower and fruit manipulation is monitored.
- Pruning as vegetative plant manipulation methods are monitored.

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.

### ADMISSION REQUIREMENTS

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 2.

	Unit Standard	NQF	credits
CORE MODULES	Apply crop protection and animal health products effectively and responsibly	2	4
	Apply routine maintenance and servicing plans and procedures	3	3
	Assist in farm planning and layout for conservation and rainwater harvesting	3	3
	Demonstrate a basic understanding of the physiological functioning of the anatomical structures of the plant	3	4
	Explain application of marketing principles within an alternative and dynamic agricultural marketing environment	3	3
	Explain costing and the viability of an agri-business	3	3
	Explain human resource policies and procedures	3	3
	Explain store inputs categories, labeling and storage methods	3	3
	Explain the planning and scheduling of tasks in a production environment	3	3
	Explain the propagation of plants	3	4
	Interpret factors influencing agricultural enterprises and plan accordingly	3	3

**CORE MODULES**

Maintain water quality parameters	3	2
Manage soil fertility and plant nutrition	3	5
Monitor and co-ordinate the harvesting of agricultural products	3	4
Monitor and supervise a food safety and quality management system in the agricultural supply chain	3	3
Monitor natural resource management practices	3	4
Monitor pests, diseases and weeds on crops	3	2
Monitor plant manipulation	3	3
Monitor the operation and maintenance of irrigation systems	3	3
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**FUNDAMENTAL MODULES**

Unit Standard	NQF	credits
Accommodate audience and context needs in oral communication	3	5
Demonstrate an understanding of the use of different number bases and measurement units and an awareness of error in the context of relevant calculations	3	2
Describe, apply, analyse and calculate shape and motion in 2-and 3-dimensional space in different contexts	3	4
Incorporate basic concepts of sustainable farming systems into practical farm activities	3	7
Interpret and use information from texts	3	5
Investigate life and work related problems using data and probabilities	3	5
Supervise the collection of agricultural data	3	5
Use language and communication in occupational learning programmes	3	5
Use mathematics to investigate and monitor the financial aspects of personal, business and national issues	3	5
Write texts for a range of communicative contexts	3	5
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