



**MEGRO  
LEARNING**

GROWTH THROUGH **LEARNING**<sup>TM</sup>

AGRICULTURAL LEARNERSHIPS



**Animal Production**

**Mixed Farming System**

**Animal Production**

**Mixed Farming System**

**Animal Production**

**Plant Production**

**Farming**

**Plant Production**

**Farming**

**Plant Production**

**Fruit Packing &  
Grading Processes**

**Plant Production**

**Macadamia Production  
& De-husking**



## Purpose of this Qualification

The purpose of this qualification is to allow new entrants access to the primary agricultural sector with specific reference to animal production. The contextualised purpose and usage of the qualification is as follows:

- A learner assessed against this qualification will have the necessary competence to participate as part of a working team, performing the agricultural processes as applicable to animal production in a closely defined context and under close supervision
- Competency will be gained in any of the specialised sub-fields of animal production as specified under areas of specialisation (i.e. Small stock, Large Stock, Dairy Production, Aqua Culture, etc.)
- The learner will be able to take responsible decisions within a limited 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 Animal Production context
- The learner will be able to carry out repetitive procedures in a predictable environment and will be able to adhere to 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
- Finally, 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

## Possible careers on completion

Qualifying learners could follow a career in:

- Farmer /Farm Worker specializing in Animal Production
- Farm Supervisor
- Farm Team Leader

## Exit level Outcomes

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

- Fundamental competencies
- Agri-business
- Agricultural practices
- Animal Production
- Plant Production (This component has been included to ensure that
- Learners at this level is exposed to a small component of plant production)



## Fundamental Competencies:

- Apply various communication skills within the agricultural environment
- Apply mathematical calculations within the agricultural environment
- Safely and accurately collect routine agricultural data by applying prescribed methods of data collection for agricultural purposes
- Recognise the basic concepts of sustainable farming practices and be able to perform basic tasks in applying sustainable farming practices

## Agri-business:

- Keep record and report appropriately on inputs and resources in an agricultural environment
- Describe the production process in an agricultural environment
- Describe the importance of marketing within the agricultural production process
- Keep an accurate and current simple financial record keeping system in an agri-business environment
- Apply the basic principles of human resources management in an agricultural environment
- Understand the basic principles of enterprise selection and production

## Agricultural Practices:

- Apply sound food safety principles by identifying risk factors in food contamination and applying preventative measures to ensure product safety
- Observe and maintain basic water quality by working with the technical systems that control quality factors in water
- Incorporate an understanding of the role of natural resource management in sustainable agricultural practices into existing farming activities by applying basic practices to conserve the environment, including natural resources
- Carry out basic physical farm layout tasks including construction of rainwater harvesting and soil conservation structures
- Operate, care for and store basic tools and equipment in a safe and responsible manner

## Animal Production:

- Visually evaluate animals externally with respect to their basic anatomical characteristics and morphological systems
- Supply feeding by following the correct on-farm animal feeding practices
- Observe and report on breeding behaviour of farm animals
- Demonstrate an understanding of and identify the readiness of animal products for harvesting
- Observe the health status of the animals and handle animals correctly

## Plant Production:

- Produce crop whilst demonstrating an understanding of the physical and biological environment and its relationship to sustainable production

## Modules and Courses

### Module 1: Mathematical Literacy

- Analyse cultural products and processes as representations of shape, space and time
- Collect agricultural data
- Collect, analyse, use and communicate numerical data
- Critically analyse how mathematics is used in social, political and economic relations
- Demonstrate an understanding of and use the numbering system
- Describe and represent objects and the environment in terms of shape, space, time and motion
- Working with numbers in various contexts

### Module 2: Communication

- Engage in a range of speaking and listening interactions for a variety of purposes
- Explore and use a variety of strategies to learn (revised)
- Read and respond to a range of text types
- Use maps to access and communicate information concerning routes, location and direction
- Write for a variety of different purposes

### Module 3: Animal Production

- Apply standard animal feeding procedures
- Evaluate basic external animal anatomy and morphology
- Harvest animal products
- Observe and handle animals
- Recognise basic breeding behaviour of farm animals
- Recognise defensive behavior in animals

### Module 4: Natural Resource Management

- Demonstrate an understanding of the basic concepts of sustainable farming systems
- Demonstrate an understanding of the physical and biological environment and its relationship to sustainable crop production
- Understand how sustainable farming systems conserve natural resources

### Module 5: Agricultural Business

- Apply basic human resource management principles and practices applicable in an agricultural environment
- Apply elementary farm layout and infrastructure
- Demonstrate an understanding of the importance of marketing
- Handle inputs and stock in agri-business
- Identify the need for capital and understand the need for the recording of the income and different costs in an agri-business

### Module 6: General Agricultural Practices

- Apply basic agricultural enterprise selection principles
- Define production and understand the basic activities of production / conversion in the agribusiness environment
- Maintain basic water quality
- Select, use and care for hand tools and basic equipment and infrastructure



- Numeracy, Literacy & Communication equal to NQF 1
- Technical skills pertaining to agricultural activities equal to NQF 1

## Purpose of this Qualification

The purpose of this qualification is to allow junior personnel and elected candidates to progress towards a position of farm labourers (operators) with specific reference to Animal Production. The contextualised purpose and usage of the qualification is as follows:

- A learner assessed against this qualification will have the necessary competence to participate as part of a working team, performing the agricultural processes as applicable to animal production in an established and familiar context under general supervision
- The learner will be able to perform directed activities and take responsibility for guiding others at lower level within an Animal Production context
- Competency will be gained in any of the specialised sub-fields of Animal Production as specified under Areas Of Specialization (i.e. Small stock, Large Stock, Dairy Production, Aqua Culture, etc.)
- The learner will be able to make responsible decisions within a familiar 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 Animal Production context
- The learner will be able to carry out familiar procedures in a limited environment and will be able to adhere to 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 implementation of smaller development projects within an Animal Production context
- Household food security and access to mainstream agriculture

## Possible careers on completion

Qualifying learners could follow a career in:

- Farmer / Farm Worker specialising in animal production
- Farm Supervisor / Farm Team Leader

## Exit level Outcomes

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

- Fundamental Competencies
- Agri-business
- Good Agricultural Practices
- Animal Production
- Plant Production (This component has been included to ensure that learners at this level is exposed to a small component of plant production)



## Fundamental Competencies:

- Apply various communication skills within the agricultural environment
- Apply mathematical calculations within the agricultural environment
- Collect and collate agricultural data and recognise and report on deviations
- Explain basic functions of the environment by recognising patterns and processes, knowing local resources and basic sustainable agricultural processes using environmental indicators.

## Agri-business:

- Apply basic skills in record keeping, storage, contaminant management, and associated legislation when controlling input and stock
- Set goals and objectives related to production/conversion systems within an agricultural business
- Apply knowledge of the marketing principles within agriculture for a specific product or service
- Define and illustrate the gross margin statement, income statement, balance sheet, and cash flow budget as well as the different cost aspects that one can find in a business
- Describe and understand the principles of Human Resources Management as applied
- Explain the principles and factors influencing agricultural enterprise selection and production
- Select basic equipment and implements that are appropriate to a combination of activities within a single agricultural process
- Carry out basic physical farm layout tasks including the construction of rainwater harvesting and soil conservation structures in a small farm or garden environment

## Good Agricultural Practices:

- Monitor and support the implementation of food safety and quality, production, environmental and social practices and awareness within the agricultural supply chain
- Demonstrate an understanding of the importance of water quality to agriculture and to monitor and maintain water quality using established procedures
- Apply basic practices to conserve the environment, including natural resources
- Select basic equipment and implements that are appropriate to a combination of activities within a single agricultural process
- Carry out basic physical farm layout tasks including the construction of rainwater harvesting and soil conservation structures in a small farm or garden environment

## Animal Production:

- Evaluate animals externally with respect to their internal and external anatomical systems and morphology
- Explain the basic concepts used in animal nutrition, maintaining, preserving, modifying and enhancing the nutrient value of animal feeds and follow correct on-farm feeding practices
- Identify and monitor breeding behaviour, and pre and post-partum behaviour of farm animals
- Harvest animal products, prepare them for processing and identify processes involved in processing of animal products
- Identify, record, and report on abnormal animal behaviour and physical abnormalities, supervise the movement and restraint of animals and apply treatment and perform basic procedures

## Plant Production:

- Produce crops whilst demonstrating an understanding of the physical and biological environment and its relationship to sustainable production

- Numeracy, Literacy & Communication equal to NQF 1
- Technical skills pertaining to agricultural activities equal to NQF 1

## Module 1: Communication

- Access and use information from texts
- Maintain and adapt oral communication
- Use language and communication in occupational learning programmes
- Write for a defined context

## Module 2: Mathematical Literacy

- Apply basic knowledge of statistics and probability to influence the use of data and procedures in order to investigate life related problems
- Demonstrate understanding of rational and irrational numbers and number systems
- Measure, estimate and calculate physical quantities and explore, describe and represent geometrical relationships in 2-dimensions in different life or workplace contexts
- Use mathematics to investigate and monitor the financial aspects of personal and community life
- Work with a range of patterns and functions and solve problems

## Module 3: General Agricultural Practices

- Demonstrate an understanding of the physical and biological environment and its relationship to sustainable crop production
- Monitor, collect and collate agricultural data
- Recognise and identify the basic functions of the ecological environment
- Apply crop protection and animal health products effectively and responsibly
- Apply sustainable farming practices to conserve the ecological environment
- Monitor water quality
- Operate and support a food safety and quality management system in the agricultural supply chain
- Utilise and perform minor repair and maintenance tasks on implements, equipment and infrastructure
- Participate in agri/ecotourism practices at both micro and meso levels to tourists

## Module 4: Animal Production

- Apply animal products harvesting procedures
- Consider plant botany during the placement of beehives
- Define and understand production systems and production management
- Identify basic breeding practices for farm animals
- Observe and inspect animal health
- Respond correctly to control defensive behaviour in animals
- Understand animal nutrition
- Determine livestock mass
- Prepare a shearing shed for shearing

## Module 5: Agricultural Business

- Apply layout principles for conservation and infrastructure
- Apply marketing principles in agriculture
- Control inputs and stock in agri-business
- Define and understand production systems and production management
- Explain principles of human resources management and practices in agriculture
- Identify and recognise factors influencing agricultural enterprise selection
- Illustrate and understand the basic layout of financial statements



- Numeracy, Literacy & Communication equal to NQF 2
- Technical skills pertaining to agricultural activities equal to NQF 2

## Purpose of this 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 animal husbandry. Furthermore, the learner will be able to make 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 economic 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 gaining opportunities to access local, national, and international agricultural markets.

## Possible careers on completion

Qualifying learners could follow a career in:

- Farmer / Farm Worker specializing in animal production
- Farm Supervisor
- Farm Team Leader
- Farm Manager

## Exit level Outcomes

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

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



## Fundamental Competencies

- Communication
- Maths Literacy
- Recognise, interpret and report on a range of deviations during the data collection process.
- Incorporate basic concepts of sustainable farming systems into practical farm activities.

## Agri-business

- Maintain stores and agro-inputs in stores
- Participate in the production planning process on a day-to-day basis
- Apply the components of the marketing cycle in an alternative agricultural marketing environment
- Determine viability of agri-business
- Assist with the management of human resources in an agricultural environment
- Interpret the factors influencing agricultural enterprises and enterprise selection and production, and of planning accordingly

## Agricultural Practices

- Monitor and supervise the implementation of food safety and quality, production, environmental and social practices, and awareness within the agricultural supply chain
- Apply the principles of water quality management and adjust systems to ensure appropriate levels of quality
- Apply a routine maintenance and servicing plan
- Monitor practices to conserve the environment, including natural resources whereby ensuring optimal utilisation of national resources on the farm
- Decide on appropriate land capability options for a given field
- Evaluate animals with respect to their internal and external anatomical systems and physiology of animals
- Describe the nature, function, and utilisation of animal feeds and nutrients
- Apply advanced animal breeding practices Identify and describe the harvesting of animal products
- Demonstrate the implementation of minor clinical procedures under restraint

## Animal Production

- Evaluate animals with respect to their internal and external anatomical systems and physiology of animals
- Describe the nature, function, and utilisation of animal feeds and nutrients
- Apply advanced animal breeding practices
- Identify and describe the harvesting of animal products
- Demonstrate the implementation of minor clinical procedures under restraint

- Numeracy, Literacy & Communication equal to NQF 2
- Technical skills pertaining to agricultural activities equal to NQF 2

## Modules and Courses

### Module 1:

- Accommodate audience and context needs in oral communication
- Interpret and use information from texts
- Use language and communication in occupational learning programmes
- Write texts for a range of communicative contexts

### Module 2:

- Demonstrate an understanding of the use of different number bases and measurement units and an awareness of error in the context of relevant calculations
- Describe, apply, analyse and calculate shape and motion in 2-and 3-dimensional space in different contexts
- Investigate life and work related problems using data and probabilities
- Use mathematics to investigate and monitor the financial aspects of personal, business and national issues

### Module 3:

- Incorporate basic concepts of sustainable farming systems into practical farm activities
- Supervise the collection of agricultural data
- Apply crop protection and animal health products effectively and responsibly
- Apply routine maintenance and servicing plans and procedures
- Assist in farm planning and layout for conservation and rainwater harvesting
- Maintain water quality parameters
- Monitor and supervise a food safety and quality management system in the agricultural supply chain
- Monitor natural resource management practices

### Module 4:

- Apply advanced breeding practices for farm animals
- Explain animal anatomy and physiology
- Explain elementary animal nutrition
- Explain the harvesting of animal products
- Explain the prevention and treatment of animal diseases
- Minimise risk in animal management

### Module 5:

- Explain the application of marketing principles within an alternative and dynamic agricultural marketing environment
- Explain costing and the viability of an agri-business
- Explain human resource policies and procedures
- Explain store inputs categories, labeling and storage methods
- Explain the planning and scheduling of tasks in a production environment Interpret factors influencing agricultural enterprises and plan accordingly



## Purpose of this Qualification

The purpose of this qualification is to prepare the qualifying learner to practice as a farmer in the farming field of the farmer's choice, be it agronomy, horticulture, animal husbandry or a combination of any of the mentioned fields.

## Possible careers on completion

Qualifying learners could follow a career in:

- Farmer
- Farm Supervisor
- Farm Team Leader

## Exit level Outcomes

- On achieving this qualification, the learner will be able to:
- Communicate effectively
- Problem-solve within the farming sector
- Utilise effectively practical skills in farming
- Effectively show competence in farming at NQF level 1
- Demonstrate an ability to work effectively as a member of a team
- Demonstrate understanding of supply and demand, and the concept of production
- Demonstrate understanding of a general business plan and apply it to a selected business idea
- Demonstrate understanding to identify different types of business and their legal implications
- Demonstrate the ability to start and run a business and adapt to a changing business environment
- Effectively identify, analyse and select various business opportunities
- Effectively access, process, use and present information
- Use appropriate communication skills, conventions and structures for specific purpose situations

## Modules and Courses

### Module 1: Mathematical Literacy

- Analyse cultural products and processes as representations of shape, space and time
- Describe and represent objects and the environment in terms of shape, space, time and motion
- Critically analyse how mathematics is used in social, political and economic relations
- Demonstrate an understanding of and use the numbering system
- Describe and represent objects and the environment in terms of shape, space, time and motion
- Use maps to access and communicate information concerning routes, location and direction
- Working with numbers in various contexts



## Module 2: Communication

- Engage with aesthetic, affective, cultural and social values in texts
- Explore and use a variety of strategies to learn (revised)
- Read and respond to a range of text types
- Show a critical awareness of language usage
- Use appropriate communication skills, conventions and structures for specific purposes and situations

## Module 3: Farming Principles

- Demonstrate a critical understanding of the role and impact of technology in society
- Demonstrate an understanding of agricultural production management practices in relation to the socio-economic environment
- Demonstrate an understanding of the physical and biological environment and its relationship to sustainable crop production
- Show, explain, discuss and analyse the relationship between society and natural environment
- Demonstrate an understanding of soil preparation
- Demonstrate an understanding of the cultivation of soil and the control of weed

## Module 4: Agricultural Business

- Demonstrate an understanding of contracts and their sources
- Demonstrate an understanding of how scientific skills and knowledge could contribute to sustainable use of resources
- Demonstrate an understanding of the principles of supply and demand, and the concept: production
- Discuss development, utilisation, and management of human and natural resources
- Operate in a team

## Module 5: Health and Safety Principles

- Demonstrate skills that relate to a safe and secure environment
- Demonstrate an understanding of HIV/AIDS and its implications
- Maintain occupational health and safety
- Demonstrate an understanding of occupational health, safety and environmental legislation relevant to the food or beverage environ

## Module 6: Farming Practices

- Erect and maintain wire fencing
- Harvest crops manually
- Irrigate crops to maintain a predetermined moisture content
- Control weeds pests and plant diseases in an agricultural field using chemicals
- Apply fertiliser manually
- Control nematodes manually using chemicals
- Control weeds manually



- Numeracy, Literacy & Communication equal to NQF 1
- Technical skills pertaining to agricultural activities equal to NQF 1

## Purpose of this Qualification

A learner assessed as competent against this qualification will be able to perform the necessary technical skills within the context of either agronomy, horticulture, or animal husbandry as applicable to the agricultural commodity. The learner will be able to operate as part of the operational team. In the case of the farm owner, the learner will be able to execute basic business skills and develop as a small, micro, and medium enterprise.

## Possible careers on completion

Qualifying learners could follow a career in:

- Farmer
- Farm Supervisor
- Farm Team Leader
- Farm Manager



## Exit level Outcomes

On achieving this qualification, the learner will be able to:

- Compile and implement a basic business plan with a short-term focus, which includes a basic sales plan and basic budgeting plan. This plan will be specific to his/her own context of operation and agricultural commodities, whether horticulture, agronomy or animal husbandry
- Utilise unsophisticated and/or manual technology and solve problems within a specific context (either horticulture, or agronomy, or animal husbandry) and appropriate to a commodity(ies) of own choice
- Understand and apply operational safety and hygiene standards applicable to the industry and market, taking into account the level of operational requirements
- Be aware of and apply applicable legislation
- Distinguish between different production systems appropriate to a specific commodity
- Monitor and support disaster management and conservation management
- Collect data and information
- Demonstrate a basic understanding of and apply basic principles of communication within the farm operations
- Work effectively with others and operate as part of a team by applying basic teamwork principles
- Understand and apply basic ethical principles, values, and norms applicable to the workplace with specific reference to relationships with co-workers, clients, him- or herself as well as the environment
- Identify and access basic resources
- Apply basic principles of entrepreneurship (should the learner choose to include this elective in the learning programme)

## Modules and Courses

### Module 1: Mathematical Literacy

- Identify personal values and ethics in the workplace
- Access and use information
- Maintain and adapt oral communication
- Write for defined context
- Use language and communication in occupational learning programmes
- Collect, use and communicate data that relate to farming

### Module 2: Communication

- Apply basic knowledge of stats and probability to influence the use of data and procedures in order to investigate life related problems.
- Demonstrate understanding of rational and irrational numbers and number systems
- Identify, describe, compare, classify, explore shape and motion in 2- and 3- dimensional shapes in different context
- Use mathematics to investigate and monitor the financial aspects of personal and community life
- Work with a range of patterns and functions and solve problems

### Module 3: Farming Principles

- Demonstrate a basic understanding of agricultural production systems
- Demonstrate a basic understanding of the primary agriculture industry
- Identify pest and diseases relevant to the agricultural commodity the learner is associated with
- Operate and perform routine maintenance on equipment and tools

### Module 4: Agricultural Business

- Operate in a team
- Perform quality checks
- Demonstrate an understanding of basic accounting practices
- Demonstrate an understanding of contracts and their sources
- Demonstrate an understanding of managerial expertise and administrative capabilities
- Demonstrate an understanding of the principles of supply and demand, and the concept: production. Identify and discuss different types of business and their legal implications
- Identify, discuss, describe and compare major economic systems with an emphasis on the South African economy

### Module 5: Health and Safety Principles

- Demonstrate an understanding of HIV/Aids and its implications
- Maintain hygiene measures
- Maintain occupational health and safety

# Fruit Packing and Grading Processes NQF 3

SAQA ID: 48848 | CREDITS: 120  
Delivery: Classroom | Accreditation: AGRI SETA

Entry Level Requirement:

- Competence in languages, communication & numeracy at NQF Level 2

## Purpose of this Qualification

It provides learners with the opportunity to obtain competence in broad fruit packing and grading processes and practices, namely receiving, handling, packing, storing, grading, and dispatching of fruit, and provides the opportunity for learners to grow in this specific field. The learner will be able to integrate supervisory knowledge and skills with those specific to the fruit packing industry, ensuring the business they operate in is running smoothly. It also enables the learner to use competencies, which will facilitate the growth of the business. The qualification focuses on the skills, knowledge, values, and attitude required to progress further in the industry. The intention is to release the potential of people, for them to grow, develop and become more competent workers. This qualification will furthermore add value to the individuals, their workplace, and the economy as a whole.

## Possible careers on completion

Qualifying learners could follow a career in:

- Packer and Grader
- Packing and Grading Supervisor
- Packing and Grading Manager
- Packing and Grading Team Leader

## Exit level Outcomes

On achieving this qualification, the learner will be able to:

- Show an understanding of product characteristics and basic requirements of specific customer needs in the fruit industry considering the fruit handling protocols
- Demonstrate the ability to operate fruit packing machinery
- Show an understanding of the necessity for the application of environmental, hygiene, safety, and health practices in the fruit handling process
- Demonstrate an understanding of the fruit flow process from receiving, packing, storage, and dispatching of the product
- Demonstrate an understanding of the pre-sorting, grading, and packing of fruit in the light of customer needs
- Demonstrate the ability to coordinate the packing and grading processes according to packing programmes and grading standards

## Modules and Courses

### Module 1: Mathematical Literacy

- Demonstrate an understanding of the use of different number bases and measurement units and an awareness of error in the context of relevant calculations
- Describe, apply, analyse and calculate shape and motion in 2-and 3-dimensional space in different contexts
- Investigate life and work-related problems using data and probabilities
- Use mathematics to investigate and monitor the financial aspects of personal, business and national issues

### Module 2: Communication

- Accommodate audience and context needs in oral communication
- Interpret and use information from texts
- Use language and communication in occupational learning programmes
- Write texts for a range of communicative contexts

### Module 3: Understanding the processes

- Demonstrate an understanding of the basic requirements of different fruit markets
- Explain product characteristics
- Explain the cold chain process
- Monitor fruit treatment process

### Module 4: Fruit Packing and Grading Machinery

- Operate fruit packing line machine
- Operate fruit sizing machine

### Module 5: Handling the fruit

- Grade fruit
- Pack fruit
- Palletise fruit
- Dispatch final product
- Receive fruit
- Store fruit

### Module 6: Hygiene Procedures

- Apply hygiene procedures
- Apply safety and health procedures



# Macadamia Production and De-husking NQF 2

SAQA ID: 48892 | CREDITS: 120  
Delivery: Classroom | Accreditation: AGRI SETA

Entry Level Requirement:

- Numeracy, Literacy & Communication equal to NQF 1
- Technical skills pertaining to agricultural activities equal to NQF 1

## Purpose of this Qualification

This qualification provides learners with the opportunity to obtain competence in broad macadamia production and de-husking processes and practices, namely harvesting of macadamias, fertilisation and irrigation of orchards, scouting of macadamia orchards, and de-husking of macadamia nuts. This will provide the learner with opportunities to grow within any of these fields.

Learners who embark on obtaining this qualification will find that the acquisition of competence in the respective unit standards, which make up the qualification, will add value not only to their respective positions but to the industry as well.

It will provide the broad knowledge, skills, and values needed in the macadamia industry and will facilitate access to, and mobility and progression within, education and training to progress along a learning path for learners who:

- Were previously disadvantaged or were unable to complete their schooling
- Have worked in the macadamia industry for several years, but have no formal qualification or recognition of skills in this area
- Wish to extend their range of skills and knowledge of the industry so that they can become competent workers in the macadamia industry and the economy as a whole

## Possible careers on completion

Qualifying learners could follow a career in:

- Farmer / Farm Worker specializing in Macadamia Production
- Farm Supervisor
- Farm Team Leader
- Farm Manager

## Exit level Outcomes

On achieving this qualification, the learner will be able to:

- Peg plant stations to establish macadamia orchards
- Prepare plant stations and plant macadamia trees
- Harvest of macadamia nut in husk
- Conduct macadamia orchard husbandry practices
- Scout macadamia orchards
- Manage taking process of nuts and operate de-husking machinery
- Dispatch nut and kernel according to client requirements

## Modules and Courses

### Module 1: Mathematical Literacy

- Apply basic knowledge of statistics and probability to influence the use of data and procedures in order to investigate life-related problems
- Demonstrate understanding of rational and irrational numbers and number system
- Identify, describe, compare, classify, explore shape and motion in 2-and 3-dimensional shapes in different contexts
- Use mathematics to investigate and monitor the financial aspects of personal and community life
- Work with a range of patterns and functions and solve problems

### Module 2: Communication

- Accommodate audience and context needs in oral communication
- Interpret and use information from texts
- Use language and communication in occupational learning programmes
- Write texts for a range of communicative contexts

### Module 3: Macadamia Production

- Control pest and weeds in tea fields
- Fertilise macadamia orchard
- Hole plant stations for planting macadamia trees
- Irrigate macadamia orchards
- Plant macadamia trees
- Prune macadamia trees
- Peg plant stations for macadamia orchards
- Scout macadamia orchard
- Train/selectively prune macadamia trees

### Module 4: Macadamia Harvesting Module

- Harvest macadamia nuts in husk
- Dehusk macadamia nut in the husk
- Take in nuts in the husk
- Dispatch kernel

### Module 5: Electives

- Perform basic life support and/or first aid procedures in emergencies
- Operate in a team
- Plan and manage time in the workplace
- Maintaining occupational health, safety, and general housekeeping



## Purpose of this Qualification

The purpose of this qualification is to allow new entrants access to the Primary Agricultural Sector with specific reference to Mixed Farming Systems. The contextualised purpose and usage of the qualification is as follows:

- A learner assessed against this qualification will have the necessary competence to participate as part of a working team, performing the agricultural processes as applicable to Plant and Animal Production as required for a mixed farming system in a closely defined context and under close supervision
- Competency will be gained in a combination of the sub-fields of Plant and Animal Production as specified under areas Of specialisation (i.e. Small Stock, Large Stock as well as Vegetables, Fruit Production, Hydroponics, etc.)
- The learner will be able to make responsible decisions within a limited 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 a Mixed Farming context
- The Learner will be able to carry out repetitive procedures in a predictable environment and will be able to adhere to 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 Animal Production, 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 gaining opportunities to access local, national, and international agricultural markets
- Finally, 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

## Possible careers on completion

Qualifying learners could follow a career in:

- Farmer / Farm Worker specializing in Plant and Animal Production
- Farm Supervisor
- Farm Team Leader

## Exit level Outcomes

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

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

## Fundamental Competencies:

- Apply various communication skills within the agricultural environment
- Apply mathematical calculations within the agricultural environment
- Safely and accurately collect routine agricultural data by applying prescribed methods of data collection for agricultural purposes
- Recognise the basic concepts of sustainable farming practices and be able to perform basic tasks in applying sustainable farming practices

## Agri-business:

- Keep record and report appropriately on inputs and resources in an agricultural environment
- Describe the production process in an agricultural environment
- Describe the importance of marketing within the agricultural production process
- Keep an accurate and current simple financial record-keeping system in an agribusiness environment
- Apply the basic principles of human resources management in an agricultural environment
- Understand the basic principles of enterprise selection and production

## Good Agricultural Practices:

- Apply sound food safety principles by identifying risk factors in food contamination and applying preventative measures to ensure product safety
- Observe and maintain basic water quality by working with the technical systems that control quality factors in water
- Incorporate an understanding of the role of natural resource management in sustainable agricultural practices into existing farming activities by applying basic practices to conserve the environment, including natural resources
- Carry out basic physical farm layout tasks including the construction of rainwater harvesting and soil conservation structures in a small farm or garden environment
- Operate, care for and store basic tools and equipment safely and responsibly

## Plant Production:

- Apply soil nutrient preparations in a safe, effective, and responsible manner
- Harvest crops by using basic harvesting tools
- Plant a range of crops according to correct placing, spacing, and depth of the plant material
- Identify insects and explain the damage they can cause to crops
- Manipulate plants using pre-determined methods and techniques

## Animal Production:

- Supply feeding by following the correct on-farm animal feeding practices
- Demonstrate an understanding of and identify the readiness of animal products for harvesting
- Observe the health status of the animals and will handle animals correctly

## Modules and Courses

### Module 1: Mathematical Literacy

- Analyse cultural products and processes as representations of shape, space and time
- Collect agricultural data
- Collect, analyse, use and communicate numerical data
- Critically analyse how mathematics is used in social, political and economic relations
- Demonstrate an understanding of and use the numbering system
- Describe and represent objects and the environment in terms of shape, space, time and motion
- Working with numbers in various contexts

### Module 2: Communication

- Engage in a range of speaking and listening interactions for a variety of purposes
- Explore and use a variety of strategies to learn (revised)
- Read and respond to a range of text types
- Use maps to access and communicate information concerning routes, location and direction
- Write for a variety of different purposes

### Module 3: Macadamia Production

- Apply basic agricultural enterprise selection principles
- Apply basic food safety practices
- Apply elementary farm layout and infrastructure
- Define production and understand the basic activities of production/conversion in the agri-business environment
- Handle inputs and stock in agri-business
- Maintain basic water quality
- Recognise pests, diseases, and weeds on crops
- Select, use and care for hand tools and basic equipment and infrastructure
- Understand how sustainable farming systems conserve natural resources

### Module 4: Macadamia Harvesting Module

- Apply standard animal feeding procedures
- Harvest animal products
- Observe and handle animals
- Apply basic dairy production practices
- Apply basic pig husbandry practices

### Module 5: Electives

- Fertilise soil and attend to basic plant nutrition
- Harvest agricultural crops
- Manipulate plants
- Plant the crop under supervision

### Module 6:

- Apply basic human resource management principles and practices applicable in an agricultural environment
- Demonstrate an understanding of the importance of marketing
- Demonstrate an understanding of the basic concepts of sustainable farming systems
- Identify the need for capital and understand the need for the recording of the income and different costs in an agribusiness:



### Purpose of this Qualification

This qualification provides learners with the opportunity to obtain competence in broad macadamia production and de-husking processes and practices, namely harvesting of macadamias, fertilisation and irrigation of orchards, scouting of macadamia orchards, and dehusking of macadamia nuts. This will provide the learner with opportunities to grow within any of these fields.

Learners who embark on obtaining this qualification will find that the acquisition of competence in the respective unit standards, which make up the qualification, will add value not only to their respective positions but to the industry as well.

It will provide the broad knowledge, skills, and values needed in the macadamia industry and will facilitate access to, and mobility and progression within, education and training to progress along a learning path for learners who:

- Were previously disadvantaged or were unable to complete their schooling
- Have worked in the macadamia industry for several years, but have no formal qualification or recognition of skills in this area
- Wish to extend their range of skills and knowledge of the industry so that they can become competent workers in the macadamia industry and the economy as a whole

### Possible careers on completion

Qualifying learners could follow a career in:

- Farmer / Farm Worker specializing in Macadamia Production
- Farm Supervisor
- Farm Team Leader
- Farm Manager

### Exit level Outcomes

- Peg plant stations to establish macadamia orchards
- Prepare plant stations and plant macadamia trees
- Harvest of macadamia nut in husk
- Conduct macadamia orchard husbandry practices
- Scout macadamia orchards
- Manage intake process of nuts and operate de-husking machinery
- Dispatch nut and kernel according to client requirements

### Modules and Courses

#### Module 1: Mathematical Literacy

- Apply basic knowledge of statistics and probability to influence the use of data and procedures in order to investigate life related problems
- Demonstrate understanding of rational and irrational numbers and number system
- Identify, describe, compare, classify, explore shape and motion in 2-and 3- dimensional shapes in different contexts
- Use mathematics to investigate and monitor the financial aspects of personal and community life
- Work with a range of patterns and functions and solve problems

#### Module 2: Communication

- Accommodate audience and context needs in oral communication
- Interpret and use information from texts
- Use language and communication in occupational learning programmes
- Write texts for a range of communicative contexts

#### Module 3: Macadamia Production

- Control pest and weed in tea fields
- Fertilise macadamia orchard
- Hole plant stations for planting macadamia trees
- Irrigate macadamia orchards
- Plant macadamia trees
- Prune macadamia trees
- Peg plant stations for macadamia orchards
- Scout macadamia orchard
- Train/selectively prune macadamia trees

#### Module 4: Macadamia Harvesting Module

- Harvest macadamia nuts in husk
- Dehusk macadamia nut in the husk
- Take in nuts in the husk
- Dispatch kernel

#### Module 5: Electives

- Perform basic life support and/or first aid procedures in emergencies
- Operate in a team
- Plan and manage time in the workplace
- Maintaining occupational health, safety and general housekeeping



## Purpose of this Qualification

A learner assessed against this qualification will have the necessary competence to participate as part of a working team, performing the agricultural processes as applicable to Plant production in a closely defined context and under close supervision. 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.) The learner will be able to make responsible decisions within a limited 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 a Plant Production context.

## Possible careers on completion

Qualifying learners could follow a career in:

- Farm Worker specializing in plant production (Pest Controller // Irrigationist)
- Farm Supervisor
- Farm Team Leader

## Exit level Outcomes

- Fundamental Competencies
- Agri-business
- Agricultural Practices
- Plant Production
- Animal Production (This component has been included to ensure that Learners at this level is exposed to a small component of animal production)

## Modules and Courses

### Module 1: Mathematical Literacy

- Working with numbers in various contexts
- Officially analyse how mathematics is used in social, political, and economic relations
- Collect, analyse, use and communicate numerical data
- Demonstrate an understanding and use of the numbering system
- Describe and represent objects and the environment in terms of shape, space, and time
- Analyse cultural products as representations of shape, space, and time

### Module 2: Communication

- Use maps to access and communicate information concerning routes, locations and directions
- Engage in a range of speaking and listening interactions for a variety of purposes
- Read and respond to a range of text types
- Write for a variety of different purposes
- Explore and use a variety of strategies to learn (revised)

### Module 3: Macadamia Production

- Apply basic agricultural enterprise selection principles
- Identify the need for capital and understand the need for the recording of the income and different costs in an agri-business
- Apply basic human resource management principles and practices applicable in an agricultural environment
- Handle inputs and stock in agri-business
- Demonstrate an understanding of the importance of marketing
- Define production and understand the basic activities of production/conversion in the agri-business environment

### Module 4: Macadamia Harvesting Module

- Collect agricultural data
- Apply basic food safety practices
- Maintain basic water quality
- Select, use and care for hand tools and basic equipment and infrastructure
- Operate and maintain irrigation systems

### Module 5: Electives

- Demonstrate a basic understanding of the structure and function of a plant in relation to its environment
- Plant the crop under supervision
- Harvest agricultural crops
- Manipulate plants
- Recognise pests, diseases, and weeds on crops
- Propagate plants
- Fertilise soil and attend to basic plant nutrition

### Module 6: Electives

- Assess the influence of the environment on sustainable livestock production

### Module 7: Electives

- Demonstrate an understanding of the basic concepts of sustainable farming systems.
- Understand how sustainable farming systems conserve natural resources
- Apply elementary farm layout and infrastructure
- Demonstrate an understanding of agricultural / ecotourism as a system at the micro-level
- Identify and explain permaculture principles



- Numeracy, Literacy & Communication equal to NQF 1
- Technical skills pertaining to agricultural activities equal to NQF 1

## Purpose of this Qualification

The purpose of this qualification is to allow junior personnel and elected candidates to progress towards a position of farm labourers (operators) with specific reference to Plant Production.

## Possible careers on completion

Qualifying learners could follow a career in:

- Farm Worker specialising in plant production (pest controller/ irrigationist)
- Farm Supervisor
- Farm Team Leader

## Exit level Outcomes

- Fundamental competencies
- Agri-business
- Good agricultural practices
- Animal Production
- Plant Production
- Identify the basic structures and functions of a plant
- Soil is prepared according to the requirements of the crop
- Propagate plants
- Recognize common insects, disease symptoms and weeds and apply basic control measures
- Apply agrochemical products in a safe, effective and responsible manner with consideration to the environment
- Plant a range of crops and monitor the correct establish of crops as well as ensuring that planting is placed and spaced as required
- Manipulate plants by applying a narrow range of techniques
- Harvest crops

## Modules and Courses

### Module 1: Mathematical Literacy

- Access and use information from text
- Maintain and adapt oral communication
- Write for a defined text
- Use language and communication in occupational learning programs

## Module 2: Communication

- Apply basic knowledge of statistics and probability to influence the use of data and procedures in order to investigate life-related problems
- Work with a range of patterns and functions and solve problems
- Demonstrate an understanding of rational and irrational numbers and the numbers systems
- Use mathematics to investigate and monitor the financial aspects of personal and community life
- Measure, estimate and calculate physical quantities and explore, describe and represent geometrical relationships in two dimensions in different life or workplace contexts

## Module 3: Macadamia Production

- Recognise and identify the basic functions of the ecological environment
- Monitor, collect and collate agricultural data
- Access the influence of the environment on sustainable livestock production
- Utilise and perform minor repair and maintenance tasks on implements, equipment and infrastructure
- Store and control agrochemical products effectively and responsibly

## Module 4: Macadamia Harvesting Module

- Apply marketing principles in agriculture
- Apply layout principles for conservation and infrastructure
- Control inputs and stock in agribusiness
- Define and understand production systems and production management
- Explain principles of human resource management and practices in the agricultural environment
- Illustrate and understand the basic layout of financial statements
- Operate and support food safety and quality management system in the agricultural supply chain

## Module 5: Electives

- Apply crop protection and animal health products effectively and responsibly
- Apply plant manipulation methods
- Demonstrate an understanding of plant propagation
- Harvest agricultural crops
- Monitor the establishment of a crop
- Monitor water quality
- Operate and maintain specific irrigation systems
- Understand basic soil fertility and plant nutrition
- Understand the structure and functions of a plant
- Control pests, diseases and weeds on all crops effectively and responsibly

## Module 6: Electives

- Apply sustainable farming practices to conserve the ecological environment
- Identify and recognise factors influencing agricultural enterprise selection
- Participate in agri/ecotourism practices at both micro and meso levels for tourists



## Purpose of this Qualification

The learner will be able 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 agribusiness 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

## Possible careers on completion

Qualifying learners could follow a career in:

- Farm Worker specialising in plant production (pest controller/irrigationist)
- Farm Supervisor
- Farm Team Leader
- Farm Manager

## Exit level Outcomes

- Fundamental competencies
- Agri-business
- Good agricultural practices
- Plant Production
- Identify and describe the physiological processes and anatomical structures of a plant
- Soil nutrient preparations are performed in a safe, effective, and responsible manner for the benefit of plant/crop growth with consideration to the environment
- Plants are propagated in a limited range of conditions
- Apply basic control measures for insects, plant diseases, and common weeds
- Monitor and coordinate the harvesting of crops
- Monitor and supervise the manipulation of plants by applying a broad range of techniques

## Modules and Courses

### Module 1: Mathematical Literacy

- Accommodate audience and context needs in oral communication
- Interpret and use information from texts
- Use language and communication in occupational learning programs
- Write texts for a range of communicative contexts

### Module 2: Communication

- Describe, apply, analyse and calculate 3-dimensional space in different contexts
- Demonstrate an understanding of the use of different units and an awareness of error in the context of relevant calculations
- Investigate life and work-related problems using data and probabilities
- Use mathematics to investigate and monitor the financial aspects of personal business and national issues

### Module 3: Macadamia Production

- Supervise the collection of agricultural data
- Apply crop protection and animal health products effectively and responsibly
- Apply routine maintenance and servicing plans and procedures
- Assist in farm planning and layout for conservation and rainwater harvesting
- Demonstrate a basic understanding of the functioning of the anatomical structures of the plant

### Module 4: Macadamia Harvesting Module

- Explain the application of marketing principles within an alternative and dynamic agricultural marketing environment
- Explain costing and the viability of an agri-business
- Explain human resource policies and procedures
- Explain store inputs categories, labeling and storage methods
- Explain the planning and scheduling of tasks in a production environment
- Interpret factors influencing agricultural enterprises and plan accordingly
- Monitor and supervise a food safety and quality management system in the agricultural supply chain

### Module 5: Electives

- Incorporate basic concepts of sustainable farming systems into practical farm activities
- Monitor natural resource management practices
- Communicate Agri / ecotourism principles and concepts effectively and adapt to needs
- Introduction to organic certification and internal control systems

### Module 6: Electives

- Explain the propagation of plants
- Maintain water quality parameters
- Manage soil fertility and plant nutrition
- Monitor and coordinate the harvesting of agricultural products
- Monitor pests, diseases, and weeds on crops
- Monitor plant manipulation
- Monitor the operation and maintenance of irrigation systems
- Produce crop in a hydroponic system



- Numeracy, Literacy & Communication equal to NQF 2
- Technical skills pertaining to agricultural activities equal to NQF 2

## Purpose of this Qualification

The purpose of this qualification is to allow Supervisors to progress towards a Junior Farm Manager position with specific reference to Plant Production

## Possible careers on completion

Qualifying learners could follow a career in:

- Farm Worker specialising in plant production (Pest Controller/Irrigationist)
- Farm Supervisor Farm Team Leader Farm Manager

## 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:

- Apply communication skills in an agricultural environment
- Apply mathematical calculations within the agricultural environment
- Implement a data collection plan in the agricultural sector
- 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
- Exit Level Outcomes are divided into four categories of competencies, namely: Fundamental Competencies

## Agri-business:

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

## Agricultural Practices:

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

## Plant Production:

- Explain the different physiological processes involved in the growth and development of the plant
- Establish and supervise the implementation of soil preparation procedures
- Propagate plants in a variety of situations
- Demonstrate an understanding of an integrated pest management system
- Develop a harvesting plan for crops
- Implement a plant manipulation management plan using a broad range of techniques

## Modules and Courses

### Module 1: Mathematical Literacy

- Accommodate audience and context needs in oral communication
- Interpret and use information from texts
- Use language and communication in occupational learning programs
- Write texts for a range of communicative contexts

### Module 2: Communication

- Describe, apply, analyse and calculate 3-dimensional space in different contexts
- Demonstrate an understanding of the use of different units and an awareness of error in the context of relevant calculations
- Investigate life and work-related problems using data and probabilities
- Use mathematics to investigate and monitor the financial aspects of personal business and national issues

## Module 3: Macadamia Production

- Supervise the collection of agricultural data
- Apply crop protection and animal health products effectively and responsibly
- Apply routine maintenance and servicing plans and procedures
- Assist in farm planning and layout for conservation and rainwater harvesting
- Demonstrate a basic understanding of the functioning of the anatomical structures of the plant

## Module 4: Macadamia Harvesting Module

- Explain the application of marketing principles within an alternative and dynamic agricultural marketing environment
- Explain costing and the viability of an agri-business
- Explain human resource policies and procedures
- Explain store inputs categories, labeling and storage methods
- Explain the planning and scheduling of tasks in a production environment
- Interpret factors influencing agricultural enterprises and plan accordingly
- Monitor and supervise a food safety and quality management system in the agricultural supply chain

## Module 5: Electives

- Incorporate basic concepts of sustainable farming systems into practical farm activities
- Monitor natural resource management practices
- Communicate Agri / ecotourism principles and concepts effectively and adapt to needs
- Introduction to organic certification and internal control systems

## Module 6: Electives

- Explain the propagation of plants
- Maintain water quality parameters
- Manage soil fertility and plant nutrition
- Monitor and coordinate the harvesting of agricultural products
- Monitor pests, diseases, and weeds on crops
- Monitor plant manipulation
- Monitor the operation and maintenance of irrigation systems
- Produce crop in a hydroponic system