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|  | **Unit ID:**  | **ID ORG2** |
| **Domain** | **PLANT HUSBANDRY** |  |
| **Title:** |  **Select and recapture organic seeds**  |  |
| **Level: 2** |  | **Credits: 2** |

Purpose

This unit standard specifies the competencies required to understand how to select local heirloom seeds using traditional or locally applicable techniques. It is intended for those who work in agriculture as well as people in other occupations that work with food production. It includes:

* Collect and prepare organic seeds
* Separate high-quality seeds from low quality seeds
* Treat and store selected organic seeds.

**Special Notes**

1. Entry information:

Prerequisites: None

1. This unit standard is to be delivered and assessed in the context of agricultural operation and can be assessed in conjunction with other relevant technical unit standards.
2. The evidence required to demonstrate competency in this unit must be relevant to workplace operations.
3. Assessment evidence may be collected from a real workplace in which agricultural operations are carried out. Practical assessment evidence can be based on a Portfolio of evidence in conjunction with the quality check of the final product.
4. All inspection, operation and maintenance procedures associated with the use of tools and equipment shall comply with manufacturers’ guidelines and instructions.
5. Glossary of Terms
	* *‘Exotic seed’* refers to seeds of foreign origin with different geographical and climatic conditions adaptability.
	* *‘Organic seed’* refers to any organic seed that have not undergone any chemical treatment and have not been genetically modified to keep its productivity and adaptability value intact. Majority of organic seeds are saved and passed on from generation to another and are often referred to as heirloom seed.
	* *‘Pure seed’* refers to seeds with intact varietal genetic composition (genotype) and intact varietal observable characteristics (phenotype). Pure seeds are commonly referred to as heirloom seed or as old varietal cultivars carefully cultivated and passed down through many generations.
* *‘Seed’* refers to a mature ovule consisting of an embryonic plant together with a store of food (the endosperm), surrounded by a protective coat. In angiosperms, the seed develops after the fertilization of an egg cell by a male generative cell from a pollen grain.
	+ *‘Seed selection’* is the foundation of high quality and healthy yield. It may refer to the process of grading seeds and picking high quality seeds from the low-quality seeds to improve yields.
	+ *‘Seed recapture’* refers to the process of collecting seed varieties that are natural, endangered and economically valuable to bring them back to the fields for their multiplication and preservation.
	+ *‘Seed bank’* refers to a germplasm conservation facility, farm or a plot to preserve the genetic material and information of seed varieties.
	+ *‘Seedling’* refers to a young plant grown from seed.
	+ *‘Seed coat’* refers to the protective covering of a seed, usually composed of inner and outer integuments.
	+ *‘Seed vigour’* refers to the vitality or strength of germination, especially under unfavourable conditions.
	+ *‘Seed dormancy’* refers to a condition of a seed whereby the germination process cannot be completed under adequate conditions.
	+ *‘Seedborne’* refers to carried on or in the seed, usually referring to a pathogen or disease.
1. Regulations and legislation relevant to this unit standard include the following:
* Labour Act, No. 11, 2007
* Regulations relating to the Health and Safety of employees at work, 1997
* National Agricultural Policy, 1995
* National Drought Policy, 1997
* Fertilisers, farm feeds and agriculture and stock remedies Act, No. 46, 1998
* Seed and Seed Varieties Bill, 2009 (approved by Namibian Cabinet 2013)
* Plant Breeders' and Farmers' Rights Bill, 2009 (approved by Namibian Cabinet 2013)
* Biosafety Act, No 7 of 2006
* Water Resources Management Act, No. 24, 2004
* Environmental Management Act, No. 7, 2007
* Pollution Control and Waste Management Bill, 2003 3rd draft
* Agronomic Industry Act, 20, 1992
* Plant Quarantine Act, No. 7, 2008
* National Policy on Climate Change for Namibia, 2011
* United Nations Framework Convention on Climate Change, 1992
* Convention on Biological Diversity, 1992
* Standards Act 18 of 2005, Standards Regulations: relevant Namibian Standards as established
* Global GAP, English Version 5.4-1 GFS, 22/01/22
* Namibia Seed Policy of 2013 Access to Biological and Genetic Resources and Associated Traditional Knowledge Act, 2 of 2017
* All current sets of *Good Agricultural Practices* (GAP) to which Namibia subscribes and Global GAP that regulate agricultural products entering a country to which Namibian producers may export.

and all subsequent amendments to any of the above.

**Quality Assurance Requirements**

This unit standard and others within this subfield may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority on www.namqa.org and the Namibia Training Authority on www.nta.com.na

**Elements and Performance Criteria**

# Collect and prepare local seeds

**Range**

Collection of local organic seeds may include, but is not limited to, gathering seeds from organic farms, organic local vendors, other farmers and local shops.

Seeds may include, but are not limited to, seeds passed from generation to other generation, obtained from own farm or plot, bought from other farmers or local shops, foreign adopted seeds that have adapted to local conditions.

Seed preparation may include, but is not limited to, washing seeds, cleaning, removing outer shells /coats and soaking for improved germination

**Performance criteria**

## Instructions for collecting local seed varieties are understood and confirmed.

## Tools and materials are selected and prepared.

## Seeds are collected from promising cultivars.

## Seed inhibitor coats are removed.

## Relevant seed is soaked.

# Separate high-quality seeds from low quality seeds

**Range**

Traditional seed selection techniques separate high-quality seeds from low quality seeds. It may include, but is not limited to, grading based on the following parameters: moisture, colour, size, weight, flavour and shape. This may be done but is not limited to using eye-hand-picking techniques, water test (float and sink technique), sieves and germination rate.

High quality seeds may refer but are not limited to pure seeds, free from debris, moulds and discolouring as well as uniformly sized, with high germination rate, excellent physiological vigour, mature, free from pests and diseases infestations, free from fungal infections, with a long shelf life or high storage capacity and not mixed with other type of seeds.

**Performance criteria**

## Seed selection techniques are explained.

## Personal Protective clothing is selected if required.

## Tools, materials and equipment are selected and prepared.

## Hygiene and biocontrol measures are demonstrated.

## High quality seeds are separated from low quality seeds according to industry standards.

# Treat and store selected seed

**Range**

Organic seed treatments may refer to non-chemical applications on seeds such as coating with wood ash to prevent pests, plant extract and oils, hot water treatments, priming, clay pelletizing for precision seeding.

Seed storage is crucial to ensure productive crop production. Conditions must be controlled and monitored to ensure elimination of post-harvest losses.

**Performance criteria**

## Personal Protective clothing is selected if required.

## Tools, materials and equipment are selected and prepared.

## Selected high-quality seeds are treated with organic treatments and stored.

## Selected and possibly treated seed is stored according to industry standards.

## Seed storage conditions and pest infestation are monitored.

## Low quality seeds are disposed of, recycled and used for other purposes.

## Tools are cleaned and stored according to instructions.

## Site is cleaned.

Registration Data

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| **Subfield:** | Organic Farming |
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| **Date first registered:** | June 2022 |
| **Date this version registered:** | June 2022  |
| **Anticipated review:** |  |
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| **Body responsible for review:** | Namibia Training Authority |