



National Occupational Standards

Seed Bank Management

Unit Code: AGR/N7835

Version: 1.0

NSQF Level: 4

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Description

This OS unit is about managing the seed by planning, implementing the seed collection and maintaining the seed bank

Scope

The scope covers the following :

- Plan seed collection for a seed bank
- Implement seed collection program
- Maintain a seed collection

Elements and Performance Criteria

Plan seed collection for a seed bank

To be competent, the user/individual on the job must be able to:

- PC1.** Identify purpose and scope of seed bank
- PC2.** Investigate and interpret seed characteristics for method of collecting
- PC3.** Identify opportunities for seed collection from field observation and liaison with stakeholders in this field
- PC4.** Identify site, site conditions and plants for seed collection
- PC5.** Identify site specific hazards, assess risk and develop control procedures according to workplace health and safety policies
- PC6.** Identify governing authority for site and contact stakeholder
- PC7.** Obtain permits and approvals required for seed collection site according to regulations and tenure
- PC8.** Select method of seed collection according to seed type and site conditions
- PC9.** Determine and document quantity of seed to be collected from each provenance
- PC10.** Enlist the characteristics of the plants from which seeds to be collected

Implement seed collection program

To be competent, the user/individual on the job must be able to:

- PC11.** Coordinate and schedule work team
- PC12.** Coordinate and schedule work team
- PC13.** Confirm and provide access to permits and approvals according to regulatory requirements
- PC14.** Instruct work team on health and safety procedures
- PC15.** Oversee seed collection activities according to seed collection plan and health and safety procedures
- PC16.** Oversee seed cleaning activities according to workplace procedures
- PC17.** Maintain seed collection labels and records according to regulations and workplace procedures

Maintain a seed collection

To be competent, the user/individual on the job must be able to:

- PC18.** Check quantity, quality origin of collected seed

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- PC19.** Monitor viability and health of seed collected
- PC20.** Implement pest and disease control procedures
- PC21.** Maintain optimum seed storage conditions
- PC22.** Dispose of non-viable seeds according to workplace environmental procedures
- PC23.** Package, label and distribute seed according to quality standards and workplace procedures
- PC24.** Maintain record of stored seed

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** flowering biology of the target species
- KU2.** biological signs that indicate seed crop maturity
- KU3.**
 - types of seed banks and their purpose, including:
 - a. community seed banks and networks
 - b. private and commercial seed collections
 - c. commercial seed distribution
 - d. organic food production enterprises
 - e. heritage and non-hybrid seed collections
- KU4.**
 - methods of seed collection, including:
 - a. hand-picking seeds and fruits
 - b. harvesting plants or plant parts
 - c. collecting and ripening fruit
 - d. shaking
- KU5.** extraction of seed from chaff and waste
- KU6.** handling of the seed crop after picking
- KU7.**
 - storage of seed, including:
 - a. storage containers, including bags, paper envelopes, plastic or glass containers, foil
 - b. environmental conditions for storage, including cool, dry, dehumidifying agents (silica gel, wood ash), oxygen exclusion techniques and freezer/refrigerator
 - c. pest deterrent mechanisms
 - d. light exclusion mechanisms
- KU8.**
 - documentation of the extracted seed, including:
 - a. information on provenance
 - b. botanical name: family, genus, species, variety and/or cultivar
 - c. common names
 - d. brief plant description
 - e. identity of collector
 - f. date collected or use-by date
 - g. quantity (by weight or number of seeds)
 - h. viability test results
 - i. organic certification of grower
 - j. growing instructions such as recommended season and spacing
- KU9.**
 - provenance of seed, including:
 - a. location and growing conditions of parent plant
 - b. sub-catchment identification of seed from endemic native plant populations
 - c. species and/or varieties adapted to local conditions

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- KU10.** • collecting ethics, protocols and legislative parameters, including:
- a. limits on quantity allowed for collection
 - b. limits on time period for collection
 - c. particular use or destination for seed
 - d. indigenous plant regulatory conditions
 - e. permits and authorities for site tenure
- KU11.** safe work practices when harvesting seed, including working at heights

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** Prepare applications and documentation clearly and accurately using appropriate industry terminology to convey regulatory information required for statutory approvals
- GS2.** Maintain accurate records of seed source, species, provenance and other relevant characteristics using biological naming conventions and terminology

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Plan seed collection for a seed bank</i>	10	5	-	10
PC1. Identify purpose and scope of seed bank	-	-	-	-
PC2. Investigate and interpret seed characteristics for method of collecting	-	-	-	-
PC3. Identify opportunities for seed collection from field observation and liaison with stakeholders in this field	-	-	-	-
PC4. Identify site, site conditions and plants for seed collection	-	-	-	-
PC5. Identify site specific hazards, assess risk and develop control procedures according to workplace health and safety policies	-	-	-	-
PC6. Identify governing authority for site and contact stakeholder	-	-	-	-
PC7. Obtain permits and approvals required for seed collection site according to regulations and tenure	-	-	-	-
PC8. Select method of seed collection according to seed type and site conditions	-	-	-	-
PC9. Determine and document quantity of seed to be collected from each provenance	-	-	-	-
PC10. Enlist the characteristics of the plants from which seeds to be collected	-	-	-	-
<i>Implement seed collection program</i>	10	10	-	15
PC11. Coordinate and schedule work team	-	-	-	-
PC12. Coordinate and schedule work team	-	-	-	-
PC13. Confirm and provide access to permits and approvals according to regulatory requirements	-	-	-	-
PC14. Instruct work team on health and safety procedures	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC15. Oversee seed collection activities according to seed collection plan and health and safety procedures	-	-	-	-
PC16. Oversee seed cleaning activities according to workplace procedures	-	-	-	-
PC17. Maintain seed collection labels and records according to regulations and workplace procedures	-	-	-	-
<i>Maintain a seed collection</i>	15	15	-	10
PC18. Check quantity, quality origin of collected seed	-	-	-	-
PC19. Monitor viability and health of seed collected	-	-	-	-
PC20. Implement pest and disease control procedures	-	-	-	-
PC21. Maintain optimum seed storage conditions	-	-	-	-
PC22. Dispose of non-viable seeds according to workplace environmental procedures	-	-	-	-
PC23. Package, label and distribute seed according to quality standards and workplace procedures	-	-	-	-
PC24. Maintain record of stored seed	-	-	-	-
NOS Total	35	30	-	35

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N7835
NOS Name	Seed Bank Management
Sector	Agriculture
Sub-Sector	
Occupation	Agri-Entrepreneurship and Rural Enterprises
NSQF Level	4
Credits	1.25
Minimum Educational Qualification & Experience	<p>12th grade Pass (Science or equivalent) OR Completed 2nd year of the 3-year diploma after 10 (in Agriculture/Horticulture/Forestry/Agri culture Engineering/Veterinary Sciences/Animal Husbandry/Diary Technology) OR 10th grade pass and pursuing continuous schooling (for 2-year program) OR 11th grade pass OR 10th grade pass with 3 Years of experience Agriculture and allied sectors OR Previous relevant Qualification of NSQF Level (3.5) OR Previous relevant Qualification of NSQF Level (3) with 3 Years of experience Agriculture and allied sectors</p>
Version	1.0
Last Reviewed Date	30/04/2024
Next Review Date	30/04/2027
NSQF Clearance Date	30/04/2024
Reference code on NQR	NG-04-AG-02546-2024-V1-ASCI
NQR Version	1.0
CCN Category	2