



Australian Government

Department of Education, Employment and Workplace Relations

FPIFGM5212A Manage genetic resources

Release: 1

FPIFGM5212A Manage genetic resources

Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit describes the outcomes required to manage the propagation process using sexual and asexual methods and tending nursery plants. It includes the propagation methods of seeding, cuttings, grafting, tissue culture and layering

General workplace legislative and regulatory requirements apply to this unit; however there are no specific licensing or certification requirements at the time of publication

Applicable legislation - Plant Breeders Rights Act 1994

This unit replaces FPIFGM5204A Manage genetic resources

Application of the Unit

Application of the unit

The unit involves managing genetic resources in a forest environment or settings such as farms, agriculture, workshops, domestic, nursery, local council applications, as applicable to the unit

The skills and knowledge required for competent workplace performance are to be used within the scope of the person's job and authority

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability skills This unit contains employability skills

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan propagation	1.1. Applicable Occupational Health and Safety (OHS), environmental, legislative and organisational requirements relevant to managing genetic resources are identified and followed 1.2. Genetic resource policies and marketing plans for the organisation are reviewed and analysed for impact on the propagation and tending planning process 1.3. Quantities, timing, provenances, species and desirable characteristics are selected in line with organisational policies and guidelines 1.4. Specifications and targets for production quantities, timing, provenances and species are specified and documented in line with organisation guidelines 1.5. Site environmental protection measures are monitored in line with relevant legislation and regulations 1.6. Communication with others is established and maintained in line with OHS and organisational requirements
2. Implement genetic resource management plan	2.1. Method of propagation is selected in line with local environment and organisation guidelines 2.2. Permits or licences required for production, collection and management of genetic resources are obtained 2.3. Operational activities including hygiene, propagation bed preparation and environmental considerations are directed 2.4. People, materials, tools and equipment required for propagation are coordinated and scheduled in line with organisational guidelines 2.5. Genetic resource management plan and propagation strategy are coordinated to establish the plant stock 2.6. Nursery staff are informed of the plan, propagation methods and tending requirements
3. Monitor and review genetic resource management plan	3.1. Environmental protection measures for propagation, soil and drainage are inspected for correct implementation

ELEMENT**PERFORMANCE CRITERIA**

- 3.2.Regular communication is conducted with operational staff, clients and contractors during the propagation phase to ensure smooth operation and progress
- 3.3.Operational activities are **monitored** and reviewed for potential improvements
- 3.4.Propagation method is reviewed and diagnosed for potential improvements
- 3.5.Genetic resource management results are **recorded and reported** in line with site and organisational requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level required for this unit.

Required skills

- Plant propagation skills for a range of propagation techniques
- Communication skills and interpersonal techniques sufficient to interact appropriately with colleagues and others in the workplace
- Literacy skills sufficient to accurately record and maintain information relating to genetic resource management
- Numeracy skills sufficient to schedule resources, materials and equipment required for propagation
- Problem solving skills sufficient to identify problems and demonstrate appropriate response procedures
- Planning and organisational skills sufficient to efficiently and safely implement a genetic resource management plan, and organise and obtain required permits or licences

Required knowledge

- Applicable Commonwealth, State or Territory legislation, regulations, standards, codes of practice and established safe practices relevant to the full range of processes for managing genetic resources
- Environmental protection requirements, including the safe disposal of waste material
- Organisational and site standards, requirements, policies and procedures for managing genetic resources

REQUIRED SKILLS AND KNOWLEDGE

- Propagation and planning
- Genetic resources and tending strategies
- Regeneration principles and methods
- Hydrology and hydrological principles
- Botany, including plant identification and classification skills
- Ecology and ecological interactions
- Soil types and structure
- Nursery hygiene and sterilisation techniques
- Established communication channels and protocols
- Problem identification and resolution strategies and common fault finding techniques
- Types of tools and equipment and procedures for their use, operation and maintenance relevant to managing genetic resources
- Appropriate mathematical procedures for estimating and measuring, including calculating time to complete tasks
- Procedures for recording and reporting workplace information

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

A person who demonstrates competency in this unit must be able to provide evidence that they can manage genetic resources within organisational requirements

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements of this unit and include demonstration of:

- following applicable Commonwealth, State or Territory legislative and regulatory requirements and codes of practice relevant to managing genetic resources
- following organisational policies and procedures relevant to managing genetic resources
- effective communication and safe work practices
- managing genetic resources in line with regulations

EVIDENCE GUIDE

	and organisational requirements
	• coordinating personnel to follow planning, communications and scheduling for genetic resource management activities
Context of and specific resources for assessment	• Competency is to be assessed in the workplace or realistically simulated workplace • Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints • Assessment of required knowledge, other than confirmatory questions, will usually be conducted in an off-site context • Assessment is to comply with relevant regulatory or Australian Standards requirements • The following resources should be made available: • workplace location or simulated workplace • materials and equipment relevant to undertaking work applicable to this unit • specifications and work instructions
Method of assessment	• Assessment must satisfy the endorsed Assessment Guidelines of the FPI11 Training Package • Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of required knowledge • Assessment methods applicable to this unit may include direct observation of tasks with questioning of required knowledge and the completion of projects, assignments or written tests • Assessment methods must confirm the ability to access and correctly interpret and apply the required knowledge • Assessment may be applied under project-related conditions (real or simulated) and require evidence of process • Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances • Assessment may be in conjunction with assessment of other units of competency • The assessment environment should not disadvantage the candidate

EVIDENCE GUIDE

- Assessment practices should take into account any relevant language or cultural issues related to Aboriginality, gender or language backgrounds other than English
- Where the participant has a disability, reasonable adjustment may be applied during assessment
- Language and literacy demands of the assessment task should not be higher than those of the work role

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

OHS requirements:

are to be in line with applicable Commonwealth, State or Territory legislation and regulations, and organisational safety policies and procedures, and may include:

- personal protective equipment and clothing
- safety equipment
- first aid equipment
- fire fighting equipment
- hazard and risk control
- fatigue management
- elimination of hazardous materials and substances
- safe forest practices including required actions relating to forest fire
- manual handling including shifting, lifting and carrying

Legislative requirements:

are to be in line with applicable Commonwealth, State or Territory legislation, regulations, certification requirements and codes of practice and may include:

- award and enterprise agreements

RANGE STATEMENT

- industrial relations
 - Australian Standards
 - confidentiality and privacy
 - OHS
 - the environment
 - equal opportunity
 - anti-discrimination
 - relevant industry codes of practice
 - duty of care
 - heritage and traditional land owner issues
 - nursery hygiene
- Organisational requirements** may include:
- legal
 - organisational and site guidelines
 - policies and procedures relating to own role and responsibility
 - quality assurance
 - procedural manuals
 - quality and continuous improvement processes and standards
 - OHS, emergency and evacuation procedures
 - ethical standards
 - recording and reporting requirements
 - equipment use and maintenance and storage requirements
 - environmental management requirements (waste disposal, recycling and re-use guidelines)
- Genetic resources** are to include:
- sexual and asexual plant species
- Propagation** is to include:
- the natural process of breeding new plants from the parent stock using seeds, cuttings, grafting, tissue cultures and layering
- Tending** is to include:
- the process of regularly checking the plants and the propagation method to aid and promote plant growth
- Provenances** are to include:
- the place of origin that the plant or propagation method comes from
- Species** may include:
- native species of one or more types
 - imported species
- Characteristics** may include:
- growth rate
 - branch angle

RANGE STATEMENT

Environmental protection measures may include:

- branch height
- timber density
- fungal and insect control measures

and action to limit impacts on:

- selected forest vegetation
- habitat
- soil and water features

Communication may include:

- verbal and non-verbal language
- constructive feedback
- active listening
- questioning to clarify and confirm understanding
- use of positive, confident and cooperative language
- use of language and concepts appropriate to individual social and cultural differences
- control of tone of voice and body language
- propagation
- planting and tending of the genetic resources

Operational activities may include:

Tools and equipment may include:

- conveyors
- mixing equipment
- refrigeration units
- cool store, mobile beds
- elevated growing platforms
- automated seeding equipment
- fork lifts
- tractors
- spray equipment
- hand tools
- glasshouses
- covered beds
- irrigation systems
- hoses
- plumbing fittings
- trolleys
- seedling pots or trays
- artificial media
- potting mix
- soil

RANGE STATEMENT

Monitored

- sterilisation chamber
- personal protective equipment and clothing such as visibility vest, safety boots, spray masks, safety glasses
- should be performed at key stages of plant development

and may include:

- health and condition of seedlings
- water
- nutrients
- weeds
- rate of development

Records and reports

may be detailed reports outlining the management of genetic resources and regeneration processes and outcomes including:

- difficulties
- recommendations for future work
- results
- costs
- data analysis
- evaluation of outcomes
- information on health and condition of seedlings
- seedling treatments
- water volume administered

and may be:

- manual
- using a computer-based system
- other appropriate organisational communication system

Unit Sector(s)

Not Applicable

Competency field

Competency field Forest Growing and Management