



Australian Government

Department of Education, Employment and Workplace Relations

FPIFGM5215A Breed trees

Release: 1

FPIFGM5215A Breed trees

Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit describes the outcomes required to improve yield through improved tree breeding. It includes conducting consultative processes and monitoring and analysis of the effectiveness of the breeding

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

This unit replaces FPIFGM5207A Breed trees

Application of the Unit

Application of the unit

The unit involves breeding trees 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 tree breeding	1.1. Applicable <i>Occupational Health and Safety (OHS)</i>, environmental, <i>legislative</i> and <i>organisational</i> requirements relevant to <i>tree breeding</i> are identified and followed 1.2. Site <i>environmental protection measures</i> are identified and adhered to in line with relevant legislation and regulations 1.3. <i>Timeline</i> and budget are identified and checked with <i>appropriate personnel</i> 1.4. Organisational strategic and marketing plans are reviewed and analysed to identify impact on tree breeding operation 1.5. <i>Consultative processes</i> are used to obtain input to the plan in line with <i>operational requirements</i> 1.6. Desirable <i>breeding characteristics</i> are identified for the breeding plan 1.7. Appropriate <i>reproduction techniques</i> are selected to optimise propagation of the trees 1.8. Breeding plan is developed, documented and communicated in line with organisational requirements 1.9. Necessary <i>approvals</i> are sought and obtained in line with organisational requirements
2. Implement breeding operation	2.1. Breeding operation is implemented in line with schedule, budget and legislative requirements 2.2. Required <i>resources</i> and <i>authorisations</i> are obtained in line with organisational and legislative requirements 2.3. Schedule for site is organised in conjunction with technical operators in line with organisational requirements 2.4. <i>Communication</i> with others is established and maintained in line with OHS and organisational requirements 2.5. <i>Documentation requirements</i> are identified and recorded in line with OHS requirements
3. Monitor tree breeding	3.1. <i>Monitoring points</i> are identified and adhered to in line with organisational procedures

ELEMENT**PERFORMANCE CRITERIA**

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| | 3.2. Breeding operation is checked to ensure environmental, OHS, organisational and legislative compliance requirements are met, and documentation is completed and submitted as required |
| | 3.3. Communication with operations supervisor is maintained in line with OHS and organisational requirements |
| | 3.4. Breeding plan and processes are amended as required to ensure specifications, quality and performance targets are met |
| 4. Review tree breeding | 4.1. Tree breeding operation is reviewed against breeding plan and organisational requirements |
| | 4.2. Information and data is analysed to determine effectiveness of breeding operation and improvements to future plans |
| | 4.3. Recommendations for future operations are prepared based on findings of analysis and consultation |
| | 4.4. Tree breeding operation is recorded and reported to the appropriate personnel |

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Technical skills sufficient to implement pollination techniques and to recognise common diseases, pests and nutrition deficiencies
- Communication skills sufficient to use appropriate consultative and interpersonal techniques with colleagues and others, and to effectively present written and oral information to a wide range of individuals and groups
- Literacy skills sufficient to prepare a range of reports, documentation and submissions where precise meaning is required
- Numeracy skills sufficient to analyse qualitative and quantitative information and data
- Problem solving skills sufficient to demonstrate time and project management
- Planning and organisational skills sufficient to develop a breeding plan and to

REQUIRED SKILLS AND KNOWLEDGE

acquire necessary approvals, resources and authorisations

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 breeding trees
- Environmental protection requirements, including the safe disposal of waste material
- Organisational and site standards, requirements, policies and procedures for breeding trees
- Data collection and analysis methods
- Flowering times for target species
- Reproduction techniques for target species
- Pollination techniques
- Desirable features for selection of breeding stock
- Genetic characteristics of target species
- Hydrology and hydrological principles
- Botany, including plant identification and classification skills
- Ecology and ecological interactions
- Soil types and structure
- 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 breeding trees
- Appropriate mathematical procedures for estimating and measuring, including calculating time to complete tasks
- Procedures for recording and reporting workplace records and 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 breed trees

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 breeding trees
- following organisational policies and procedures relevant to breeding trees
- planning a tree breeding operation using consultative processes with colleagues and stakeholders to obtain inputs and ensure efficient and safe processes and timelines
- safely implementing a tree breeding operation in line with documented plan and budget, and making adjustments to plan or operation
- reviewing and analysing breeding operation and using findings to document improvements to future operations
- preparing and presenting a detailed report including costs, processes and analysing findings of the breeding operation

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

EVIDENCE GUIDE

Method of assessment

- undertaking work applicable to this unit
 - specifications and work instructions
- 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
- 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

RANGE STATEMENT

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
- heritage and traditional land owner issues

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
- 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

Organisational requirements may include:

- legal
- organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance

RANGE STATEMENT

	• 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)
Tree breeding	• may be to improve the yield and form of trees through improved breeding
Environmental protection measures may relate to:	• hygiene of the area • relevant national, State and local legislation and regulations • ground growth • canopy • general forest lean • wind speed and direction • fallen trees • density of trees • ground slope • soil and water protection • ground hazards and obstacles and may include: • contingencies for modifying operations during wet or other adverse weather conditions
Timeline may be critical to:	• the productivity of the forest • success of the operation • suitability for various forest products (e.g. pruning certification)
Appropriate personnel may include:	• operations supervisor • management • colleagues • client • relevant groups
Consultative processes may include:	• face-to-face meetings • telephone • facsimile

RANGE STATEMENT

- written and email communication

and may be with:

- clients
- technical operators
- marketing groups
- operations supervisor
- colleagues
- relevant groups/bodies such as environmental bodies
- local, State and federal government bodies and agencies
- internal policy groups
- labour force

Operational requirements may include:

- end product requirements
- stand treatment certification documentation
- contractual requirements and obligations
- environmental and public relations imperatives
- current state of the forest resource

Breeding characteristics may include:

- growth rate
- tree form
- branch angle
- fibre length
- fibre orientation
- extractive content
- salt tolerance
- drought tolerance
- density

Reproduction techniques may include:

- self and cross pollination
- cuttings
- grafting
- layering
- stolons
- suckers

Approvals may be required by:

- environmental bodies
- local, State and federal government bodies and agencies

and may refer to:

- long-term budget approvals

Resources may include:

- people

RANGE STATEMENT

Authorisations may include:	• materials • equipment • permits • approvals • licences relating to neighbouring properties and may refer to:
Communication may include:	• hours of operation • use and application of chemicals • the environment • regular communication with the operations supervisor to ensure smooth operation and progress
Documentation requirements	must be clear and accurate and may include: • changes to the plan or process • supplementary approvals • supplementary notifications
Monitoring points	• should be performed at key stages of the process
Compliance requirements may include:	• OHS • organisational, legislative and environmental regulations, procedures, practices and precautions and adherence to: • site environmental imperatives • specifications • quality • performance targets
Information	may be from numerous sources and include: • legislation • forest biology • tree physiology • new technology
Records and reports may refer to:	• difficulties or issues faced during planning and implementation of tree breeding operation • recommendations for future work • results • costs • data analysis

RANGE STATEMENT

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