



Technical and Vocational Education and Training (TVET) Council



Occupational Standards of Competence

Apiculture Level 2

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Qualification Overview

NVQB

in

Apiculture

Level 2

NVQB in Apiculture Level 2

Qualification Overview

This qualification can be used by employers to support employees in developing their beekeeping skills, including the establishment of hives and apiaries; managing bee swarms; transporting live bees and effectively maintaining beekeeping operations for the production of honey and other bee products.

Employees at this level must have an understanding of the required skills and knowledge to safely and effectively manage a beekeeping operation. They must also be able to effectively work with others in a beekeeping environment and mitigate potential environmental, animal and worker health risks.

Like all NVQs this qualification is competence based. This means that it is linked to the candidate's ability to competently perform a range of tasks connected with their work. Candidates must plan a programme of development and assessment with their assessors and compile a portfolio of evidence to prove that they are competent in their work role.

Who is this qualification for?

The NVQB in Apiculture Level 2 is aimed at persons who tend bees, remove swarming bees or wild beehives and maintain beehives or apiaries for domestic and commercial purposes.

Where can it be used?

The NVQB in Apiculture Level 2 is aimed at persons who work in the field of tending bees, removing swarming bees or wild beehives and maintaining beehives or apiaries for domestic and commercial purposes.

Jobs in the occupational area

The NVQB in Apiculture Level 2 is aimed at persons who tend bees, remove swarming bees or wild beehives and maintain beehives or apiaries for domestic and commercial purposes.

APPROVED NATIONAL VOCATIONAL QUALIFICATION STRUCTURE

APICULTURE LEVEL 2

To achieve a full award, candidates must complete all twenty-one (21) mandatory units.

<u>Mandatory Units (All must be completed)</u>	<u>CODES</u>
1. Plan, prepare and work	U55802
1.1 Plan to work	
1.2 Prepare to work	
1.3 Follow safe work practices	
2. Create and maintain effective working relationships	U00106
2.1 Gain the trust and support of colleagues and team members	
2.2 Gain the trust and support of one's immediate manager	
3. Participate in workplace communication	U53802
3.1 Gather and convey workplace information	
3.2 Participate in workplace meetings and discussions	
3.3 Complete work related documents	
4. Maintain safe and effective working practices	U92502
4.1 Maintain the safety of self and others in the workplace	
4.2 Maintain working relationships with others	
4.3 Maintain and develop personal performance	
5. Respond to emergencies	UA20102
5.1 Prepare for emergency situations	
5.2 Identify and evaluate the emergency	
5.3 Implement fire protection and control procedures	
5.4 Confine the emergency where possible	
5.5 Manage the emergency situation	
6. Manage pests and disease within a honey bee colony	UA20202
6.1 Prepare to check brood	
6.2 Assess health and condition of brood	
6.3 Assess health and condition of adult bees	
6.4 Treat, prevent and control diseases and pests	
6.5 Destroy diseased colony	

Mandatory Units (All must be completed) cont'd

CODES

- | | | |
|------------|---|----------------|
| 7. | Carry out data entry and retrieval procedures | U66302 |
| 7.1 | Initiate computer system | |
| 7.2 | Enter data | |
| 7.3 | Retrieve data | |
| 7.4 | Amend data | |
| 7.5 | Use document layout and data format facilities | |
| 7.6 | Monitor the operation of equipment | |
| 7.7 | Access and transmit information via the Internet | |
| 7.8 | Close down computer system | |
| 7.9 | Maintain computer equipment | |
| 8. | Contribute to the protection of the environment | U68402 |
| 8.1 | Work in an environmentally conscious way | |
| 8.2 | Contribute to continuous improvements in protecting the environment | |
| 9. | Formulate feed and feed bees | UA20302 |
| 9.1 | Select feed methods | |
| 9.2 | Prepare supplementary feed for bees | |
| 9.3 | Feed bees | |
| 10. | Select site and establish an apiary | UA20402 |
| 10.1 | Plan to select site and establish an apiary | |
| 10.2 | Select the apiary location on site | |
| 10.3 | Establish the apiary at the selected site | |
| 11. | Maintain an apiary | UA20502 |
| 11.1 | Maintain apiary during the dearth period | |
| 11.2 | Manage apiary during pre-season | |
| 11.3 | Maintain apiary during post-season | |
| 12. | Manage honey bee swarms | UA20602 |
| 12.1 | Prepare to catch a swarm of honey bees | |
| 12.2 | Collect a swarm of honey bees | |
| 12.3 | Manage swarming behaviour in a honey bee colony | |

Mandatory Units (All must be completed) cont.

CODES

- | | |
|---|----------------|
| 13. Use a bee smoker | UA20702 |
| 13.1 Prepare bee smoker for use | |
| 13.2 Use bee smoker to manage bees | |
| 14. Rear queen bees | UA20802 |
| 14.1 Establish conditions and obtain requirements for queen bee rearing | |
| 14.2 Establish and monitor the queen mating process | |
| 15. Re-queen a honey bee colony | UA20902 |
| 15.1 Identify requirement to re-queen a colony | |
| 15.2 Prepare to re-queen a colony | |
| 15.3 Introduce replacement queen bee | |
| 15.4 Monitor progress of a replacement queen bee | |
| 16. Assemble and repair beehives | UA21002 |
| 16.1 Prepare to assemble or repair beehives | |
| 16.2 Assemble frames | |
| 16.3 Fix foundation into frame | |
| 16.4 Assemble and repair beehives | |
| 16.5 Clean up on completion of work | |
| 17. Prepare and maintain beekeeping records | UA21102 |
| 17.1 Prepare for records keeping | |
| 17.2 Prepare inventory of apiary and equipment | |
| 17.3 Plan goal for apiary | |
| 17.4 Plan work schedule | |
| 18. Sell honeybee related products and services | UA21202 |
| 18.1 Engage customer | |
| 18.2 Sell products and services | |
| 18.3 Maintain products | |
| 19. Harvest, extract and store honey | UA21302 |
| 19.1 Prepare to remove honey | |
| 19.2 Remove honey from the hive | |
| 19.3 Prepare to extract honey | |
| 19.4 Extract honey | |
| 19.5 Store honey | |

Mandatory Units (All must be completed) cont.

CODES

20. Collect and store propolis

UA21402

- 20.1 Prepare to collect propolis
- 20.2 Collect, extract and store propolis

21. Trap and store pollen

UA21502

- 21.1 Prepare to trap and store pollen
- 21.2 Collect pollen
- 21.3 Store pollen

U55802**Plan, prepare and work**

Unit Descriptor:

This unit describes the knowledge, skills and attitudes required to plan, prepare and work safely in the work environment. Basic maintenance and housekeeping of the work area within the scope of the employee are also included.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|-------------------------------|---|
| 1. Plan to work | <ul style="list-style-type: none"> 1.1 Plan work in accordance with relevant legislation, codes of practice and organizational procedures. 1.2 Review plans with relevant personnel. 1.3 Carry out pre-work checks and work area assessments before starting to work. 1.4 Review safe work methods before undertaking work activity. 1.5 Identify and correctly wear personal protective equipment for the job. |
| 2. Prepare to work | <ul style="list-style-type: none"> 2.1 Identify hazards in the work area. 2.2 Take appropriate actions to correct identified hazards within the scope of responsibility. 2.3 Report hazards which cannot be corrected to the appropriate personnel. 2.4 Test protective equipment before use. |
| 3. Follow safe work practices | <ul style="list-style-type: none"> 3.1 Follow work procedures and instructions for ensuring safety when conducting work carefully and precisely. 3.2 Observe duty of care requirements at all times. 3.3 Adhere to occupational safety and health plans as required. |

- 3.4 Use protective equipment correctly, as required, when working according to manufacturer's instructions.
- 3.5 Adhere to **ergonomic principles** as stated.
- 3.6 Use tools, equipment and materials correctly at all times according to manufacturer's and organisational instructions.
- 3.7 Follow organisational procedures for dealing with **emergencies** within own scope of responsibility, at all times.
- 3.8 Report incidents, injuries and hazards which occur while working to designated personnel.
- 3.9 Keep work area clean and orderly during the work process.

RANGE STATEMENT

All range statements must be assessed:

1. Protective equipment:

- Clothing
- Footwear
- Face and eye protection
- Hand protection
- Head protection
- Hearing protection
- Respiratory protection
- Machine guards

2. Hazards:

- Biological
- Environmental
- Physical
- Psychological
- Ergonomic

3. Duty of care:

- Legal responsibility to do everything reasonably practicable to protect others from harm
- Own responsibility to comply with safe work practices, including activities that require licences, tickets or certificates of competence

4. Ergonomic principles:

- Manual handling
- Workstation design

5. Emergencies:

- Evacuations
- Explosions, fires, bomb threats
- Natural disasters
- Accidents and other serious injury incidents
- Security emergencies

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. How to interpret relevant legislation, codes and organisational procedures when planning for work.
2. How to interpret relevant legislation, codes and organizational procedures when planning for work.
3. How to communicate work plans with relevant personnel.
4. How to identify hazards when making pre-work checks and work area assessments and what steps to take to control those that are within own area of responsibility.
5. What personal protective equipment is needed for your job and how to use and test them correctly.
6. What are common workplace hazards and the safety measures to deal with them.
7. What is the duty of care, within the scope of your own responsibility.
8. What are the different ergonomic techniques and how they should be used.
9. What are the organisational and manufacturer's requirements for storing, maintaining and using tools and equipment.
10. What are the organisational safety and emergency plans and procedures to be followed.
11. Why it is important to keep own work area clean and how does this impact on the efficiency of your own work.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge on more than one occasion. This evidence must come from a real work environment.

(2) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Oral questioning
- Observation
- Written evidence (case study, projects, assignments)
- Witness testimony

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidates must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, products and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **must not be used**, except in exceptional circumstances where natural work evidence is unlikely to occur.

U00106**Create and maintain effective working relationships**

Unit Descriptor:

This unit describes the knowledge, skills and attitudes required to create and maintain effective relationships. It describes the essential abilities of communicating effectively; managing time; problem solving; developing new skills to improve performance; operating within organisational procedures and meeting legal requirements.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|--|---|
| 1. Gain the trust and support of colleagues and team members | <ul style="list-style-type: none"> 1.1 Communicate with colleagues and team members at appropriate times about proposed activities in a manner which encourages open and frank discussion. 1.2 Inform colleagues and teams sufficiently about organisational plans and activities. 1.3 Confirm that commitments made to colleagues and team members are realistic and honoured. 1.4 Treat colleagues and team members in a manner that shows respect for individuals and the need for confidentiality. 1.5 Support colleagues and team members sufficiently to achieve work objectives. 1.6 Discuss evaluations of output and behavior with colleagues and team members promptly and effectively. 1.7 Deal with unexpected situations effectively and inform the appropriate persons where necessary. 1.8 Carry out work in an organised and efficient manner in accordance with organisational procedures. |
|--|---|

2. Gain the trust and support of one's immediate manager
 - 2.1 Confirm that the immediate manager receives timely and accurate reports on activities, issues, progress, results and achievement.
 - 2.2 Confirm that the immediate manager receives clear, accurate and timely information about emerging threats and opportunities.
 - 2.3 Consult the immediate manager at appropriate times about organisational policies and ways of working.
 - 2.4 Confirm that proposals for action are realistic, clear and presented at an appropriate time.
 - 2.5 Make constructive efforts where there are disagreements to resolve them with the immediate manager.
 - 2.6 Deal with unexpected situations effectively and inform the appropriate persons where necessary.
 - 2.7 Carry out work in an organised and efficient manner in accordance with organisational procedures.

RANGE STATEMENT

All range statements must be assessed:

1. Colleagues:

- Persons working at a lower level
- Persons working at a higher level
- Persons working at the same level

2. Team members:

- Persons with whom the individual works to fulfill line responsibilities
- Persons with whom the individual works to fulfill functional responsibilities

3. Immediate manager:

- Persons to whom the individual reports
- Organisation or authority to which the person reports

4. Proposals:

- Oral
- Written

5. Disagreements:

- Actual
- Potential

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. Why gaining the trust and support of colleagues and team members are important for effective performance.
2. How to encourage good working relationships and a feeling that colleagues and team members are respected.
3. Why gaining the trust and support of one's immediate manager is important to effective performance.
4. What types of emerging threats and opportunities the manager needs to be informed about and the degree of urgency attached to these.
5. Why commitments to colleagues need to be realistic and why they should be honoured.
6. What types of support colleagues and team members may require to achieve their objectives and how to respond effectively to these needs.
7. How to select appropriate times, methods and styles of consultation according to a range of issues and contexts.
8. What range of issues about which colleagues and team members need to be informed.
9. What range of communication methods is available and how to select methods appropriate to a range of issues and contexts.
10. What types of information concerning colleagues and team members need to be treated confidentially and what procedures need to be followed to achieve this.
11. How to provide feedback in a way which will lead to a constructive outcome.
12. What types of disagreements may occur with the immediate manager and what are the methods of handling these in any appropriate manner.
13. Why the immediate manager needs to be kept informed of activities, progress, results and achievements.
14. How to develop and present proposals in a way which is realistic, clear and likely to influence the immediate manager's decision-making positively.
15. What range of communication methods can be used to keep the immediate manager informed and how to select an appropriate *method according to the range of issues and contexts*.
16. How to develop and present proposals in a way which is realistic, clear and likely to influence the immediate manager's decision-making positively.
17. What types of organisational policies and way of working the manager needs to be informed about and what the appropriate methods of doing so are.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out all the elements, meeting **all** of the performance criteria, range and underpinning knowledge on more than one occasion. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion

Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **must not** be used, except in exceptional circumstances where natural work evidence is unlikely to occur.

U53802**Participate in workplace communication**

Unit Descriptor:

This unit describes the knowledge, skills and attitudes required to gather, interpret and convey information in response to workplace requirements.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|--|--|
| 1. Gather and convey workplace information | 1.1 Access relevant and up-to-date information from appropriate sources .
1.2 Use effective communication strategies to gather and convey information.
1.3 Use appropriate medium to transfer information and ideas.
1.4 Identify and follow lines of communication with management and colleagues.
1.5 Define procedures for the location and storage of information.
1.6 Record information according to organisational procedures. |
| 2. Participate in workplace meetings and discussions | 2.1 Make useful contributions in meetings and discussions.
2.2 Express opinions clearly in a courteous and respectful manner.
2.3 Confirm that discussions are appropriate to the purpose and proposed outcome of the meeting.
2.4 Interpret and implement meeting outcomes. |
| 3. Complete work related documents | 3.1 Select correct documentation and complete accurately and legibly according to organisational requirements.
3.2 Identify and correct errors on forms and documents. |

RANGE STATEMENT

All range statements must be assessed:

1. Appropriate sources:

- Team members
- Suppliers
- Trade personnel
- Public sector (government)
- Industry

2. Communication strategies:

- Questioning
- Listening
- Speaking
- Writing
- Non-verbal communication

3. Medium:

- Memorandum
- Circular
- Notice
- Information discussion
- Follow-up or verbal instruction
- Face to face communication

4. Storage:

- Manual filing system
- Electronic filing system

5. Protocols:

- Organisational policies and procedures
- Legislation

6. Workplace interactions:

- Face to face
- Telephone
- ICT
- Written (electronic, memos, instructions, forms)
- Non-verbal (gestures, signals, signs, diagrams)

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. What are the organisational policies and procedures that relate to the communication of information.
2. How to locate, interpret and provide information in response to organisational requirements or customer requests.
3. What are appropriate sources of information.
4. What is effective communication.
5. What are the different modes of communication and how to use them.
6. What are the different communication strategies and how to use them.
7. How to communicate effectively with management, colleagues and clients to provide information and feedback.
8. How to participate in workplace meetings and discussions.
9. How to identify the purpose and proposed outcomes of a meeting and make positive contributions to achieve them.
10. How to express opinions in a clear and courteous manner.
11. How to use basic ICT resources (fax, telephone, computer).
12. What is the range of work related documentation and how this should be completed.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out all the elements, meeting **all** of the performance criteria, range and underpinning knowledge on more than one occasion. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion

Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **must not** be used, except in exceptional circumstances where natural work evidence is unlikely to occur.

U92502

Maintain safe and effective working practices

Unit Descriptor:

This unit describes the knowledge, skills and attitudes required to function within health and safety standards. Candidates are required to demonstrate that they are able to work effectively and efficiently with colleagues, supervisors and customers. It also highlights the need for individuals to take responsibility for self-development in the workplace.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

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|----|---|-----|---|
| 1. | Maintain the safety of self and others in the workplace | 1.1 | Work according to training and instructions received to avoid risk to self and others. |
| | | 1.2 | Wear the appropriate personal protective equipment according to organisational procedures. |
| | | 1.3 | Use approved methods and handling equipment when moving and lifting items. |
| | | 1.4 | Use appropriate equipment and materials safely and correctly according to organisational requirements and manufacturer's instructions. |
| | | 1.5 | Return equipment and materials to designated storage when not in use. |
| | | 1.6 | Keep the immediate work area tidy and free from hazards. |
| | | 1.7 | Dispose of waste safely and correctly in a designated area, in accordance with organisational procedures and environmental and industry regulations. |
| | | 1.8 | Perform work in a manner which minimises environmental damage and contributes to the improvement of environmental work practices. |
| | | 1.9 | Report accidents, incidents or problems to appropriate persons promptly and take immediate action to reduce further danger. |

- 1.10 Carry out work in an organised and efficient manner in accordance with specified procedures.
- 2. Maintain working relationships with others
 - 2.1 Maintain appropriate and effective working relationships with **others**.
 - 2.2 Carry out activities requiring cooperation with **others** in accordance with required procedures.
 - 2.3 Handle disagreements effectively and in accordance with organisational procedures.
 - 2.4 Communicate clearly and in a manner which promotes effective working relationships.
- 3. Maintain and develop personal performance
 - 3.1 Take responsibility for tasks and activities in accordance with organisational requirements, either alone as part of a team.
 - 3.2 Seek advice from the appropriate person if clarification is required concerning specific tasks.
 - 3.3 Review **personal performance** and **development** with the appropriate person at suitable times.

RANGE STATEMENT

All range statement items must be assessed:

1. Personal protective equipment:

- Ear protection
- Gloves
- Footwear
- Overalls/coveralls
- Helmets/hats
- Eye protection

2. Equipment:

- Manual
- Electronic

3. Waste:

- Solid
- Liquids
- Hazardous/toxic

4. Others:

- Colleagues
- Supervisors
- Customers

5. Personal performance and development:

- Productivity
- Quality of work

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. How to carry out work activities avoiding risk to self and others.
2. What are the basic requirements of health and safety, other legislation and regulations that apply to the workplace.
3. What are the organisational requirements for the use of personal protective equipment.
4. How to select and use the correct personal protective equipment.
5. What is the relevant and up-to-date information on health, safety and security and how it applies in the workplace.
6. Why it is important to be alert to health, safety and security hazards.
7. What are the common health, safety and security hazards that affect persons working in this role and how these should be identified.
8. Why it is important to warn others about hazards and how to do so until the hazard is removed.
9. Why it is important to use safe lifting techniques.
10. What are the correct and safe ways to use equipment and materials required for the work.
11. What are safe methods and areas for the storage of equipment and materials.
12. What are the organisational and legislative requirements for disposing of waste safely.
13. What health and safety records may need to be kept and how to do so.
14. How the conditions under which you work can affect the efficiency and effectiveness of yourself and those around you.
14. What methods should be used to promote good environmental practice and to minimise environmental damage while working.
15. What procedures should be used for different types of emergencies in the industry.
16. Why it is important to develop and maintain effective working relationships and how to do so.
17. What procedures should be used in dealing with workplace disagreements.
18. Why it is important to communicate effectively and what are the available methods to do so.
19. How to maintain security in the work area.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** of the elements, meeting **all** of the performance criteria, range and underpinning knowledge on **more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Witness testimony
- Written evidence(work records, reports)
- Professional discussion

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation may be used to cover **PCs 1.9 and 2.3**.

UA20102**Respond to emergencies**

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to respond to workplace emergencies such as fire and other dangerous situations and render first aid according to local, regional and international standards.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

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|--|---|
| 1. Prepare for emergency situations | <ul style="list-style-type: none"> 1.1 Identify potential workplace emergency situations and carry out appropriate responses, in accordance with organisational emergency procedures. 1.2 Identify relevant emergency resources and their location in the work area. 1.3 Carry out regular checks of the workplace to minimise potential hazards and report any issues in accordance with organisational procedures. 1.4 Select and use personal protective equipment, safety equipment and other aids as required for emergencies in accordance with organisational policies and procedures and manufacturer's recommendations. 1.5 Maintain and store personal protective equipment, safety equipment and other aids correctly after use in accordance with organisational policies and procedures and manufacturer's recommendations. 1.6 Identify and report problems with the functioning of emergency resources in accordance with organisational policies and procedures. |
| 2. Identify and evaluate the emergency | <ul style="list-style-type: none"> 2.1 Identify and assess potential emergency situations and evaluate the risks and effectiveness of initial response actions. |

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|----|--|--|
| | 2.2 | Evaluate emergencies with appropriate personnel in accordance with organisational safety procedures. |
| | 2.3 | Determine emergency needs and priorities, including any assistance that may be required, in accordance with organisational safety and health policies and procedures. |
| | 2.4 | Evaluate the potential for further development of emergencies and assess any hazards or risks to staff, clients or animals in accordance with established guidelines. |
| | 2.5 | Maintain industry standards of hygiene and infection control where necessary to reduce the risk of infection or cross infection. |
| 3. | Implement fire protection and control procedures | |
| | 3.1 | Minimise the risk of fire hazards and hazardous fuelling procedures using established industry guidelines. |
| | 3.2 | Use fire extinguishers and equipment appropriate to the fire and notify authorities of fire in accordance with organisational policies and procedures and fire safety standards. |
| | 3.3 | Evacuate premises to designated assembly points in accordance with organisational emergency procedures. |
| 4. | Confine the emergency where possible | |
| | 4.1 | Confine emergency to the immediate area using available resources within current skill limits. |
| | 4.2 | Carry out emergency procedures and operate equipment using safe practices in accordance with manufacturer's recommendations. |
| | 4.3 | Coordinate the use of equipment with other emergency actions in accordance with organisational policies and procedures. |
| | 4.4 | Implement strategies for group control, including removal of staff, clients and animals from danger and monitor ongoing condition in accordance with organisational policies and procedures. |

- 4.5 Obtain and document required information to notify and assist emergency services where appropriate.
- 5. Manage the emergency situation
 - 5.1 Evacuate casualties in accordance with established emergency procedures.
 - 5.2 Isolate **hazards** where possible in a manner that minimises risk to self and casualty's health.
 - 5.3 Assess vital signs and reassure casualty in a calm and caring manner using available resources.
 - 5.4 Provide first aid within limits of authority and competence and seek first aid assistance and advice from others where required.
 - 5.5 Implement organisational procedures and policies in the event of a near miss, major injury or death.

RANGE STATEMENT

All range statements must be assessed:

1. Emergency situations:

- Medical emergencies
- Fire
- Natural disaster (e.g. flood, earthquake)
- Leakage or spillage of hazardous substances
- Animal attacks

2. Responses:

- Use of alarms/warnings
- Providing assistance
- Personal intervention
- Contacting emergency services
- Evacuation

3. Emergency resources:

- Extinguishers
- Alarms
- First aid kit
- Antihistamines

4. Hazards:

- Aggressive bees
- Bee smoker
- Bee venom from stings
- Smoke hazards
- Trip hazards

5. Personal protective equipment:

- Jacket
- Hat with veil
- Gloves

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. How to correctly evaluate an emergency situation.
2. How to avoid and control the escalation of an emergency situation.
3. How to develop and follow a plan of action.
4. What are the contingencies for dealing with particular situations.
5. How to operate emergency equipment in accordance with manufacturer's specifications.
6. How to use appropriate fire protection and control techniques relevant to the organisation and industry.
7. How to apply basic first aid to individuals across a range of situations applicable to the job role, organisation or sector.
8. What is the relevant industry standard terminology.
9. How to apply work health and safety in the context of own work.
10. What are the relevant safe working practices.
11. What are the relevant emergency contact numbers.
12. What are the organisational emergency plans and evacuation procedures.
13. What are the relevant work health and safety legislative requirements and Codes of Practice.
14. What are the relevant legal responsibilities and duty of care.
15. What are the organisational and legal policies and procedures in the event of an accident/incident.
16. What are the local call out procedures to access emergency services personnel.
17. How to prepare and improvise first aid materials and procedures.
18. What are the legal responsibilities and duty of care for persons and animals as appropriate to industry and emergency situation.
19. What are the hazard identification and risk assessment techniques and tools relevant to the organisation and industry.
20. What are the procedures to minimise infection and cross infection.
21. What are the organisational procedures and legislative requirements for dealing with major injury or death.
22. How to prepare for, evaluate and act appropriately in emergency situations.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Witness testimony
- Personal statement
- Written evidence (projects or assignments)
- Case study and scenario analysis
- Role play/simulation

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidates must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, products and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **may be used**.

UA20202

Manage pests and disease within a honey bee colony

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to inspect a honey bee colony for indicators of disease or evidence of pests and take appropriate follow-up action.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | | |
|--|-----|---|
| 1. Prepare to check brood | 1.1 | Select and correctly use personal protective equipment (PPE) according to job requirements. |
| | 1.2 | Open hive using appropriate tools and equipment while adhering to occupational health and safety standards, environmental regulations and organisational instructions. |
| | 1.3 | Identify work health and safety hazards associated with opening a hive and take appropriate action to minimise risk to self and others. |
| 2. Assess health and condition of brood | 2.1 | Inspect hive for signs of brood being ejected from hive at entrance or bottom board. |
| | 2.2 | Inspect brood for signs of pests or disease and where observed, notify relevant personnel and authorities and take appropriate action. |
| | 2.3 | Identify signs of pests or disease in brood , collect samples for testing and gather evidence to support a diagnosis using industry best practices. |
| 3. Assess health and condition of adult bees | 3.1 | Monitor flight paths around hive entrance for signs of poor or irregular flight patterns and for dead or dying bees at hive entrance. |
| | 3.2 | Monitor adult bees and brood combs for signs of pests or disease in adult bees and if present, notify relevant authorities and take appropriate action. |

-
- | | | | |
|----|---|---|---|
| | 3.3 | Identify signs of disease or pests in adult bees , collect samples for testing and gather evidence to support a diagnosis. | |
| | 3.4 | Record results of inspections and use as the basis of future beekeeping operations. | |
| 4. | Treat, prevent and control diseases and pests | 4.1 | Implement appropriate biosecurity measures in accordance with organisational policies and procedures. |
| | | 4.2 | Clean and disinfect hive components and equipment using appropriate cleaning agents in accordance with manufacturer's instructions and organisational policies. |
| | | 4.3 | Clean exterior surroundings of hive and implement suitable measures to prevent and control pests and predators that may affect bees in accordance with organisational policies and procedures. |
| | | 4.4 | Apply appropriate medications or treatments, where required, in accordance with manufacturer's instructions and organisational policies. |
| | | 4.5 | Clean work area and store all chemicals safely and appropriately in accordance with manufacturer's instructions and organisational policies. |
| | | 4.6 | Dispose of all waste in accordance with organisational and environmental policies and procedures. |
| | | 4.7 | Observe the withholding/waiting period of chemicals used in accordance with manufacturer's instructions and organisational policies. |
| | | 4.8 | Record treatment and intervention activities in accordance with organisational policies and procedures and industry practices. |
| 5. | Destroy diseased colony | 5.1 | Identify and mark/label infested or diseased hives that are to be destroyed in accordance with organisational policies and industry practices. |

- 5.2 Remove and destroy marked hives in a manner that prevents spread of disease in accordance with organisational policies and procedures.
- 5.3 Clean area and sanitise or dispose of used equipment in a manner that prevents spread of disease in accordance with environmental procedures.

RANGE STATEMENT

All range statements must be assessed:

1. Personal protective equipment (PPE):

- Jacket
- Hat with veil
- Gloves

2. Tools and equipment:

- Hive tool
- Smoker
- Brush
- Uncapping knife
- Frame grippers

3. Hazards:

- Aggressive bees
- Bee smoker (risk of burns)
- Bee venom (possible allergic reactions)
- Smoke (inhalation)

4. Signs of pests or disease in brood:

- Foul smells
- Discolorations or deformities in larvae
- Presence of silk cocoons or tunnelling
- Presence of foreign larvae in hive or hive debris
- Mummies and dead bee larvae
- Wet combs

5. Signs of pests or disease in adult bees:

- Deformities in wing, legs or abdomens
- Diarrhoea
- Sharp hive population decline
- Presence of mites on bees or in hives
- Presence of foreign larva in hive or hive debris
- Predation

6. Pests:

- Small hive beetle (SHB)
- Mites
- Wax moths
- Mice
- Ants/termites

7. Predators:

- Toads/frogs
- Birds
- Lizards
- Spiders

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. What are the various pests and diseases that can affect bees.
2. How to properly inspect broods and how often to conduct inspections.
3. How to prepare supplementary feeds.
4. How to report signs of notifiable diseases and to whom.
5. How to take samples from colonies.
6. How to transport bee colonies.
7. How to use PPE correctly.
8. How to work safely around bees.
9. How to apply numeracy skills to estimate, calculate and record routine workplace measures.
10. How to use interpersonal skills to work with and relate to people from a range of cultural, social and religious backgrounds and with a range of physical and mental abilities.
11. What are the modes of transmission/spread of pests/diseases and level of risk to beekeeping.
12. What are the signs of endemic and exotic disease and pests of honey bees and treatments.
13. What inputs should be avoided for organic honey production.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Witness testimony
- Personal statement
- Written evidence (projects or assignments)
- Case study and scenario analysis

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidates must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, products and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **must not be used**.

U66302

Carry out data entry and retrieval procedures

Unit Descriptor:

This unit describes the knowledge, skills and attitudes required to operate a computer, to enter, manipulate and retrieve data and to access information and communicate via the Internet.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|-----------------------------|---|
| 1. Initiate computer system | 1.1 Check equipment and work environment for readiness to perform scheduled tasks. |
| | 1.2 Identify hardware components of the computer and their functions correctly. |
| | 1.3 Power up equipment and apply access codes correctly. |
| | 1.4 Select or load appropriate software from the menu. |
| 2. Enter data | 2.1 Identify and correctly collect types of data for entry. |
| | 2.2 Select and use appropriate input devices for the intended operations. |
| | 2.3 Confirm that the manipulative procedures of input devices conform to established practices. |
| | 2.4 Operate keyboard/mouse within the designated speed and accuracy requirements. |
| | 2.5 Locate computer files correctly or create, name and save new files. |
| | 2.6 Enter data accurately in the appropriate files using specified procedure and format and validate in accordance with specified procedures. |
| | 2.7 Anomalous results are corrected or reported in accordance with specified procedures. |

- 2.8 Back-up in accordance with approved procedures.
- 3. Retrieve data
 - 3.1 Establish identity and source of information.
 - 3.2 Obtain authority to access data where required.
 - 3.3 Locate and access files and data correctly.
 - 3.4 Maintain integrity and confidentiality of data.
 - 3.5 Retrieve relevant reports or information using approved procedure.
 - 3.6 Confirm that formats to retrieve report or information conform to requirements.
 - 3.7 Print copy of data where required.
- 4. Amend data
 - 4.1 Establish source of data/information for amendment.
 - 4.2 Locate data to be amended correctly within the file.
 - 4.3 Enter, change or delete correct data/information using appropriate input device and approved procedures.
- 5. Use document layout and data format facilities
 - 5.1 Verify requirements for document where necessary.
 - 5.2 Apply given format and layout appropriately.
 - 5.3 Identify, access and use facilities correctly to achieve the desired format and layout.
 - 5.4 Use data manipulating facilities correctly.
 - 5.5 Confirm that format reflects accuracy and completeness.
- 6. Monitor the operation of equipment
 - 6.1 Monitor system to ensure the correct operation of tasks.
 - 6.2 Deal with routine system messages promptly and correctly.

- 6.3 Refer non-routine messages promptly to the appropriate person in accordance with operating requirements.
 - 6.4 Deal with error conditions promptly within level of authority and report uncorrected errors.
 - 6.5 Monitor output devices and materials for quality.
- 7. Access and transmit information via the Internet
 - 7.1 Gain access to the Internet in accordance with the provider's operating procedures.
 - 7.2 Demonstrate efficiently the ability to negotiate websites to locate and access specified information and other services.
 - 7.3 Send and retrieve E-Mail competently.
- 8. Close down computer system
 - 8.1 Follow the correct shut down sequence and promptly report any problems with shutting down computer.
 - 8.2 Observe safety and protective procedures.
 - 8.3 Preserve the system integrity and security.
- 9. Maintain computer equipment
 - 9.1 Confirm that cleaning materials and/or solutions used meet specified recommendations.
 - 9.2 Clean equipment as directed.
 - 9.3 Report identified wear and faults promptly to the appropriate personnel.

RANGE STATEMENT

All range statements must be assessed:

1. Equipment:

- Install supplied computer
- Install supplied peripherals

2. Work environment:

- Equipment
- Furniture
- Cabling
- Power supply

3. Appropriate software:

- Word processing
- Spreadsheet
- Internet access

4. Input devices:

- Keyboard
- Mouse
- Scanner
- Microphone
- Camera

5. Data:

- Textual
- Numerical
- Graphical

6. File operations:

- Naming
- Updating
- Archiving
- Traversing field and records in database
- Use of search
- Sort
- Print

7. Files saved on:

- Network
- Magnetic media
- Personal computer

8. Maintenance:

- Cleaning: enclosures, screen, input devices, output devices
- Checking cables, etc.

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. How to work safely with and around computers.
2. How to identify computer hardware.
3. What are computer hardware and software systems.
4. What are the procedures for initiating and closing down a computer.
5. What are the operations of the data entry management system.
6. What are the organisation's standards applicable to accessing files.
7. What are file operations and their applications.
8. How to create, locate and save files.
9. How to manipulate data input devices.
10. How to use input devices.
11. How to use data checking devices.
12. How to format software.
13. How to use software for graphic productions and manipulation.
14. How to access data.
15. How to key-in and format reports and letters.
16. How to retrieve data.
17. How to amend data.
18. How to print data.
19. How to save data.
20. How to search and receive data from the Internet.
21. How to send and receive E-Mail.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion

Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **must not be used**, except in exceptional circumstances where natural work evidence is unlikely to occur.

U68402**Contribute to the protection of the environment**

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to conduct work activities in a manner that protects the environment. Candidates should take steps to minimize any negative impact on the environment by completing tasks and activities in a way which causes as little damage or disturbance as possible to the environment while following organisational procedures.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|--|--|
| 1. Work in an environmentally conscious way | <ul style="list-style-type: none"> 1.1 Perform duties in accordance with relevant policies and legislation. 1.2 Execute duties in a manner which minimises environmental damage. 1.3 Operate and handle equipment and materials in a manner that minimises environmental damage. |
| 2. Contribute to continuous improvements in protecting the environment | <ul style="list-style-type: none"> 2.1 Identify instances of likely or actual environmental damage and take appropriate action. 2.2 Identify improvements to procedures and practices in terms of good environmental practice and report to relevant persons. 2.3 Dispose of hazardous and non-hazardous waste safely according to approved legislative procedures and practices. 2.4 Contribute to sustainable development particularly in the conservation of energy, water, use of resources and equipment to minimise environmental damage. |

RANGE STATEMENT

All range statements must be assessed:

1. Relevant policies and legislation:

- Organisational policies
- Health and safety at work
- Environmental legislation
- Solid waste management policies
- Recyclable policies

2. Manner which minimises environmental damage:

- Using recycled/reused items and materials where appropriate
- Disposing of polluting substances safely
- Reducing the volume of waste
- Using biodegradable and eco-friendly chemicals
- Planning tasks to reduce the use of fuel and electricity

3. Equipment and materials

- Hand tools
- Power tools
- Personal protective equipment
- Cleaning chemicals
- Soaps and sanitisers
- Paper towels
- Garbage disposal bags
- Cloths and towels
- Containers
- Access equipment

4. Hazardous waste:

- Oils
- Chemicals and solutions
- Harmful materials (asbestos, fibreglass)
- Electronic equipment
- Organic hazards (pest excrement, pest carcasses)

5. Non-hazardous waste:

- Food
- Plant matter
- paper

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. What are the relevant policies and legislation governing environmental protection.
2. How to recognise any likely or actual environmental damage.
3. What are the appropriate actions to take in the discovery of likely or actual environmental damage.
4. What are the ways in which tools and materials should be used in order to minimise environmental damage.
5. What are the different types of pollution.
6. What are the consequences of pollution.
7. How to recognise wastage of energy, water, equipment and materials.
8. What are the methods of working that will minimise pollution and wastage of resources.
9. What are the types of damage which may occur, the impact these can have on the environment and corrective actions to be taken.
10. What are the methods of waste disposal which will minimise the risk to the environment.
11. What are the organisational requirements to prevent wastage.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on no less than three (3) occasions**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Witness testimony
- Personal statement
- Written evidence (projects or assignments)
- Case study and scenario analysis
- Role play/simulation

(3) Context of Assessment

This unit may be assessed on the job, off the job or using a combination of both. Where assessment occurs off the job, that is, the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, products and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **must not be used**, except in exceptional circumstances where natural work evidence is unlikely to occur.

UA20302

Formulate feed and feed bees

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to formulate feed for bees and to efficiently feed bees with the prepared supplement according to local, regional and international protocols.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|---|--|
| 1. Select feed methods. | <ul style="list-style-type: none"> 1.1 Select and confirm the bee feeding methods to be used in accordance with hive requirements and industry standards. 1.2 Select appropriate feeding/watering equipment in accordance with industry practices. 1.3 Assemble and set up feeding/watering equipment in accordance with manufacturer's guidelines. |
| 2. Prepare supplementary feed for bees. | <ul style="list-style-type: none"> 2.1 Determine and confirm the feeding requirement of each colony in accordance with industry practices. 2.2 Determine and confirm the quantity of feed to be prepared in accordance in accordance with hive requirements. 2.3 Identify the necessary ingredients/resources to be used in bee food preparation according to industry practices. 2.4 Install feeding/watering equipment in accordance with manufacturer's instructions and organisational requirements. |
| 3. Feed bees. | <ul style="list-style-type: none"> 3.1 Feed bees in accordance with nutritional needs and organisational requirements. 3.2 Check and confirm the amount of feed to be given at each feeding and the frequency of feedings in accordance with industry practices. |

- 3.3 Record feeding activities and findings in accordance with organisational procedures and industry requirements.

RANGE STATEMENT

All range statements must be assessed:

1. Bee feeding methods:

- Dry feeding
- Liquid feeding

2. Feeding/watering equipment:

- Hive feeders
- Hive waterers
- External waterers

3. Bee feeding methods:

- Dry feeding
- Liquid feeding

4. Ingredients/resources:

- Sugar
- Sugar solution
- Syrup
- Candy/icing
- Water
- Pollen
- Brewer's yeast

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. How to determine the nutritional requirements of bees.
2. What are the feeding behaviours of bees.
3. How to determine the water requirements of bees.
4. How to determine the quantity and quality of available pollen and nectar.
5. What is the importance of pollen, water and nectar/honey in the diet of bees.
6. What are the relevant types of carbohydrate and protein supplements for bees.
7. What are the relevant feed substitutes and supplements for bees and how to prepare them.
8. What are the advantages/disadvantages of using feed substitutes and supplements.
9. How to collect and store pollen for dearth periods.
10. What are the kinds of disease agents in feed supplements, including honey and pollen.
11. How to determine when to consider moving an apiary to pollen/nectar source.
12. What are the impacts of weather conditions on feeding.
13. What are the various diseases in bees and what are the relevant modes of transmission.
14. What are the relevant withholding periods for use of antibiotics.
15. What are the relevant personal hygiene procedures.
16. How to collect and store pollen.
17. How to mix pollen and substitutes.
18. How to prepare feed for bees.
19. What are the main types of bee feedings (harvest, emergency, stimulative) and when each is required.
20. How to feed pollen and relevant substitutes to bees.
21. How to supply hives with prepared supplement or feed.
22. How and when to safely move apiary.
23. How to minimise disease transfer during feeding through sanitation and hygiene procedures.
24. How to maintain appropriate levels of cleanliness throughout the apiary.
25. How to keep accurate and current records.
26. How to identify disease among colonies.
27. How to prevent or mitigate robbing behaviours in bee colonies during feedings.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Witness testimony
- Personal statement
- Written evidence (projects or assignments)
- Case study and scenario analysis

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidates must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, products and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **must not be used**.

UA20402**Select site and establish an apiary**

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to select an appropriate site for beekeeping, prepare hive stand and select and transport a colony in accordance with local, regional and international protocols.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|--|--|
| 1. Plan to select site and establish an apiary | 1.1 Consult supervisor to establish or confirm criteria for selecting a site. |
| | 1.2 Identify suitable locality in which to search for site in accordance with industry guidelines. |
| | 1.3 Gather and analyse information about potential sites in selected locality in accordance with organisational procedures. |
| | 1.4 Assess the suitability of potential sites against established criteria. |
| | 1.5 Select suitable site in accordance with established criteria and legislative requirements. |
| 2. Select apiary location on site | 2.1 Identify sufficient suitable flora species to support desired number of hives at site. |
| | 2.2 Prepare a plan to establish an apiary at the selected site. |
| | 2.3 Select precise areas to establish an apiary within the site, taking into account all relevant factors . |
| | 2.4 Obtain permission (where necessary) to locate beehives at sites from relevant persons . |
| 3. Establish the apiary at the selected site | 3.1 Select and correctly wear suitable personal protective equipment (PPE) , according to organisational and industry requirements. |

- 3.2 Select required **tools and equipment** and check before use.
- 3.3 Identify work health and safety **hazards** and respond appropriately to minimise risk to self and others within scope of own authority.
- 3.4 Load and unload beehives at site safely in accordance with industry and animal safety requirements.
- 3.5 Observe and record the access of bees to floral sources and water, colony strength and honey production in accordance with organisational procedures.
- 3.6 Monitor the suitability of the site and reposition hives as required or seek a new site in accordance with hive needs.
- 3.7 Record results of inspections and any remedial action taken in accordance with organisational procedures and use as basis for future beekeeping operations.

RANGE STATEMENT

All range statements must be assessed:

1. Factors:

- Planning and land use regulations
- Proximity to flora and water
- Proximity to general public, animals, gates, stockyards
- Accessibility of the site
- Nearby land use
- Protection from extreme environmental conditions

2. Relevant persons:

- Land/site owner
- Manager
- Landlord or corporate body

3. Personal protective equipment (PPE):

- Protective jacket
- Hat with veil
- Gloves

4. Tools and equipment:

- Hives
- Hive components
- Bee smoker
- Bee brush
- Straps
- Adhesive tape

5. Hazards:

- Aggressive bees
- Bee smoker (burns)
- Bee venom (allergic reactions)
- Smoke

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. How to identify hazards and conduct risk assessments.
2. How to perform manual handling and lifting correctly.
3. What are the triggers that cause aggression or defence responses in honey bee colonies.
4. What is the correct procedure for loading and unloading beehives.
5. How to correctly interpret a map.
6. How to assess the potential productivity of flora, including its potential for pollen and nectar flow.
7. How to determine the nutritional requirements of a honey bee colony.
8. How to source information about potential sites.
9. What are the various residue risks in honey.
10. What are the relevant OHS and environmental legislation, codes of practice and organisational procedures that apply to situating bee hives and apiaries.
11. What are the animal welfare issues relating to the transportation of bees.
12. What is the stocking density on transporting vehicle.
13. What is the process for clearing a site for an apiary.
14. How to generate and maintain accurate and reliable records in bee-keeping.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Witness testimony
- Personal statement
- Written evidence (projects or assignments)
- Case study and scenario analysis

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidates must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, products and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **must not be used**.

UA20502**Maintain an apiary**

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to maintain an apiary and to provide for bees during each season according to local, regional and international protocols.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

1. Maintain apiary during the dearth period.
 - 1.1 Select and correctly use appropriate **personal protective equipment (PPE)**, in accordance with organisational and industry requirements.
 - 1.2 Conduct apiary site visits and colony assessments on a regular basis during the dearth period in accordance with industry best practices and organisational policies and procedures.
 - 1.3 Review and confirm plans for the upcoming season and complete the necessary preparations in accordance with organisational requirements.
 - 1.4 Prepare appropriate **food** for colonies and feed colonies in accordance with industry requirements.
 - 1.5 Monitor flight patterns and hive entrance activities and record all abnormal behaviours in accordance with organisational requirements.
 - 1.6 Provide bees with a clean, fresh water source in accordance with industry requirements.
 - 1.7 Complete or update all dearth period records in accordance with industry requirements.
2. Manage apiary during pre-season.
 - 2.1 Conduct pre-season apiary site visits and colony assessments on a regular basis in accordance with industry requirements.
 - 2.2 Select and prepare **equipment** for the upcoming season in accordance with manufacturer's guidelines and organisational policies and procedures.

- 2.3 Check the status of the colonies to ensure that they are operating at established level for apiaries according to industry requirements.
 - 2.4 Merge weak colonies in accordance with industry standards.
 - 2.5 Complete or update all pre-season records in accordance with organisational policies and procedures.
 - 2.6 Feed bees as necessary in accordance with industry requirements.
 - 2.7 Fit frames with appropriate foundation and space the brood nest in accordance with industry guidelines.
3. Maintain apiary during post-season.
 - 3.1 Conduct post-season apiary site visits and colony assessments on a regular basis in accordance with industry requirements.
 - 3.2 Prepare colonies for dearth period and feed bees, where required, in accordance with industry requirements.
 - 3.3 Clean apiary and all apiary **equipment** in accordance with manufacturer's instructions and industry requirements.
 - 3.4 Select suitable combs from storage for wax processing in accordance with industry requirements.
 - 3.5 Evaluate and record apiary performance for the season.
 - 3.6 Check apiaries for signs of pests and implement control procedures in accordance with industry and organisational policies.

RANGE STATEMENT

All range statements must be assessed:

1. Personal protective equipment (PPE):

- Protective jacket
- Hat with veil
- Gloves

2. Bee food:

- Dry food (e.g. icing, candy, sugar)
- Liquid food (e.g. sugar solution)

3. Equipment

- Feeders
- Hive tool
- Bee brush
- Frame grippers
- Frames

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. What are the seasonal activities conducted in an apiary.
2. How to determine status of colonies during each season.
3. What are the necessary provisions for each season.
4. What are the relevant preparation requirements for each season.
5. How to harvest honey and bees-wax.
6. What equipment is used in beekeeping.
7. What are the relevant personal hygiene procedures.
8. How to feed honey bee colonies.
9. What are the water requirements for bees.
10. How to identify weak colonies.
11. How to dissolve weak colonies.
12. How to maintain and update accurate records.
13. What are the pests of bees and hive products and what are the relevant control measures.
14. What are the main types of personal protective equipment.
15. How to prepare feed for bees and feed bees.
16. How to perform apiary assessments.
17. How to assemble frames and foundations.
18. How to remove combs from frames.
19. How to provide supers for colonies.
20. How to maintain colony.
21. How to clean an apiary and related equipment.
22. How bee behaviours and outputs vary from dearth period to main season.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Witness testimony
- Personal statement
- Written evidence (projects or assignments)
- Case study and scenario analysis

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidates must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, products and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **must not be used**.

UA20602**Manage honey bee swarms**

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to catch a swarm of honey bees and relocate it safely and implement a range of control options to manage swarming behaviour in honey bees.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|--|--|
| 1. Prepare to catch a swarm of honey bees | <ul style="list-style-type: none"> 1.1 Select and check required equipment for collecting swarm of honey bees to ensure that it is fit for use. 1.2 Select and correctly wear appropriate personal protective equipment (PPE), according to industry and organisational requirements. 1.3 Identify work health and safety hazards associated with collecting bee swarms and take appropriate action to deal with them effectively. 1.4 Identify and confirm site quarantines or other biosecurity protocols that are in effect with supervisor. |
| 2. Collect a swarm of honey bees | <ul style="list-style-type: none"> 2.1 Restrict queen bee from leaving the hive in accordance with industry requirements. 2.2 Collect swarm into a suitable receptacle in accordance with industry and animal safety requirements. 2.3 Move swarm to new location in accordance with industry requirements. |
| 3. Manage swarming behaviour in a honey bee colony | <ul style="list-style-type: none"> 3.1 Monitor honey bee colony for signs that swarming may occur in accordance with industry requirements. 3.2 Select and implement an appropriate swarm control measure (if swarming appears likely to occur) in accordance with industry requirements or supervisor instructions. |

- 3.3 Monitor colony to ensure that swarming behaviour has been controlled and, if necessary, implement further **control measures**.

RANGE STATEMENT

All range statements must be assessed:

1. Equipment:

- Additional hives
- Hive components
- Swarm box
- Shears

2. Personal protective equipment (PPE):

- Protective jacket
- Hat with veil
- Gloves

3. Hazards:

- Aggressive bees
- Bee smoker (burns)
- Bee venom (allergic reaction)
- Smoke

4. Signs:

- Large number of adult bees
- At least 8 frames of brood
- Well drawn elongated queen cells
- Time of the year

5. Control measures:

- Hive splitting
- Destruction of queen cells
- Adding additional brood chamber

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. What are the principles and practices of managing swarms.
2. Why and when honey bees swarm.
3. Why swarms are collected.
4. What are the signs that a honey bee colony is about to swarm.
5. What are the management techniques that can be used to manage a colony that is showing signs it is about to swarm.
6. What are relevant biosecurity protocols for beekeeping.
7. What are the diseases that occur in honey bees.
8. What are the signs of brood disease and wax moth infestation in a swarm once it has been placed in a hive.
9. When and how to re-queen a swarm that has been collected.
10. How to correctly wear appropriate personal protective equipment (PPE).
11. How to communicate with members of the public and/or owners or managers of the property/area from which a swarm is being collected.
12. How to collect a swarm of honey bees.
13. What are the various control options to manage swarming behaviour in honey bees.
14. How to interpret bee behaviour and handle bees.
15. What are the factors that impact whether relocated bees remain in a new hive.
16. How to use specialist equipment.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Witness testimony
- Personal statement
- Written evidence (projects or assignments)
- Case study and scenario analysis
- Role play/simulation

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidates must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, products and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **must not be used**, except in exceptional circumstances where natural work evidence is unlikely to occur.

UA20702**Use a bee smoker**

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to use a bee smoker effectively when undertaking bee husbandry tasks; taking into consideration the impact of fire hazards and the effects of smoke on bees.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|-------------------------------|--|
| 1. Prepare bee smoker for use | <ul style="list-style-type: none"> 1.1 Confirm beekeeping activity to be undertaken with supervisor prior to commencing work. 1.2 Confirm with supervisor that climatic and other conditions permit the use of a bee smoker and adjust planned activities where required. 1.3 Check bee smoker and components to ensure that they are fit for use and report any faults to appropriate persons. 1.4 Select and correctly use appropriate personal protective equipment (PPE) according to industry and organisational requirements. 1.5 Identify hazards associated with the use of a bee smoker and take appropriate steps to minimise risks to self and others within scope of own authority. 1.6 Check and confirm adequate water supply and available tools for fire control in accordance with fire safety protocols. 1.7 Monitor and correctly interpret the defensive behaviour of the colony and the related environmental factors while carrying out beekeeping operations in accordance with accepted industry practices. 1.8 Select suitable fuel for bee smoker in accordance with industry and manufacturer's guidelines. |
|-------------------------------|--|

- 1.9 Ignite and operate bee smoker in accordance with industry and manufacturer guidelines.
2. Use bee smoker to manage bees
 - 2.1 Blow smoke into entrance of hive and allow adequate time to elapse before hive is opened in accordance with industry guidelines.
 - 2.2 Operate bee smoker safely and in a manner that keeps bees under control while conducting beekeeping operations in accordance with industry guidelines.
 - 2.3 Extinguish bee smoker safely after work is completed and check work area for fire safety in accordance with industry guidelines.

RANGE STATEMENT

All range statements must be assessed:

1. Hazards:

- Flammable materials
- Negative impact on visibility
- Excessive smoke inhalation
- Hot surfaces

2. Environmental factors:

- Weather conditions
- Nectar flow

3. Fuel:

- Starters
- Kindling

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. How to correctly identify hazards and implement safe work practices.
2. How to correctly interpret the impact of weather, nectar flow and strain of bee on defensive behaviour of colony.
3. How to keep a bee smoker alight and functioning while carrying out bee husbandry tasks.
4. How to effectively monitor the effects of smoke on bees, including the wearing off of the effects.
5. What are suitable types of fuel for a bee smoker and how to select bee smoker fuel.
6. What are the various environmental factors that impact defensive behaviour in bee colonies.
7. What are the effects of smoke on bees and hive products.
8. What are the relevant legislation and regulations that relate to the use of bee smokers, especially in relation to fire protection and bushfires.
9. What are the relevant circumstances and reasons that necessitate the use of a bee smoker.
10. What type of bee smoker fuels should be avoided.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Witness testimony
- Personal statement
- Written evidence (projects or assignments)
- Case study and scenario analysis

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidates must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, products and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **must not be used**.

UA20802**Rear queen bees**

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to rear queen bees in accordance with established breeding program criteria. It covers the selection of breeding stock, grafting larvae of suitable age, maintaining the health of larvae and drones and keeping detailed records.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | | | |
|----|--|-----|--|
| 1. | Establish conditions and obtain requirements for queen bee rearing | 1.1 | Select breeding stock from productive healthy stock or purchase breeder queen bee. |
| | | 1.2 | Obtain required tools and equipment to rear queen bees. |
| | | 1.3 | Select and correctly use appropriate personal protective equipment (PPE) according to industry and organisational requirements. |
| | | 1.4 | Identify work health and safety hazards and take appropriate action to minimise them within the scope of one's own authority. |
| | | 1.5 | Observe site quarantine or other biosecurity protocols in accordance with industry practices. |
| | | 1.6 | Inspect all hives and colonies used for queen bee and drone production to ensure they are in a clean and healthy condition. |
| | | 1.7 | Select suitable larvae from the breeder queen bee for grafting and transfer from worker cells into queen cell cups in accordance with accepted industry practices. |
| | | 1.8 | Inspect hive and confirm that an adequate number of nurse bees are present in cell raising colonies in accordance with industry practices. |

- 1.9 Facilitate cell production using **suitable methods.**
- 2. Establish and monitor the queen mating process
 - 2.1 Transfer ripe queen cells into the nucleus in an appropriate time frame using accepted industry practices.
 - 2.2 Record details of grafting and subsequent placement of cells into nucleus colonies in accordance with accepted industry practices.
 - 2.3 Record the age of the queen removed from mating colony in accordance with accepted industry practices.

RANGE STATEMENT

All range statements must be assessed:

1. Tools and equipment:

- Hive tool
- Smoker
- Brush
- Frame grippers
- Grafting tool/needle
- Cell cups

2. Personal protective equipment (PPE):

- Protective clothing (suit, jacket, etc.)
- Hat with veil
- Gloves

3. Hazards:

- Aggressive bees
- Bee smoker (burns)
- Bee venom (allergic reactions)
- Smoke

4. Cell production methods:

- Doolittle
- Cloake board
- Jenter kit
- Hopkins

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. How to correctly identify hazards and implement safe work practices.
2. How to correctly perform grafting operations.
3. How to correctly handle the hive and its components.
4. How to correctly recognise diseases, pests and disorders and what appropriate actions must be taken.
5. What are the basic principles of inheritance of bee characteristics.
6. What are the signs of brood and adult bee ill-health.
7. What are the appropriate techniques and timing for queen cell production.
8. What are the storage requirements of queen bees.
9. What are the optimum conditions for re-queening.
10. What are the relevant OHS and animal welfare requirements.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Witness testimony
- Personal statement
- Written evidence (projects or assignments)
- Case study and scenario analysis

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

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Simulation **must not be used**.

UA20902

Re-queen a honey bee colony

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to re-queen a honey bee colony with a replacement queen.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|--|--|
| 1. Identify requirement to re-queen a colony | 1.1 Assess the vigour of the current queen in accordance with established criteria. |
| | 1.2 Monitor colony and identify signs that indicate queen replacement is necessary. |
| 2. Prepare to re-queen a colony | 2.1 Select and correctly wear appropriate personal protective equipment (PPE) , in accordance with industry and organisational requirements. |
| | 2.2 Identify work health and safety hazards associated with task and take appropriate actions in accordance with organisational policies and procedures. |
| | 2.3 Obtain replacement queens that meet industry requirements from a commercial supplier or from own breeding stock. |
| | 2.4 Store replacement queen and any escort worker bees in appropriate conditions and monitor until re-queening is undertaken according to industry requirements. |
| | 2.5 Monitor hive to ensure re-queening occurs under optimum conditions. |
| | 2.6 Inspect replacement queen to confirm specimen is healthy and free from pests and diseases. |
| 3. Introduce replacement queen bee | 3.1 Find and remove undesirable queen in accordance with industry requirements and organisational procedures. |
| | 3.2 Introduce new queen bee into the hive using suitable introduction methods in accordance with organisational procedures. |

- 3.3 Leave hive undisturbed for recommended period in accordance with accepted industry practices.
- 4. Monitor progress of a replacement queen bee
 - 4.1 Monitor the hive for acceptance of replacement queen bee by colony within acceptable timeframe according to industry practices.
 - 4.2 Monitor replacement queen bee for evidence of egg laying and adequate levels of hatching in accordance with industry guidelines.

RANGE STATEMENT

All range statements must be assessed:

1. Signs:

- Missing or deceased queen
- Queen laying poorly
- Queen past effective age

2. Personal protective equipment:

- Protective jacket
- Hat with veil
- Gloves

3. Hazards:

- Aggressive bees
- Bee smoker (burns)
- Bee venom (allergic reactions)

4. Introduction methods:

- Replacing queen bee with nucleus colony
- Replacing queen bee with a caged queen bee
 - Queen cage with candy plug
 - Queen cage with non-candy plug

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. How to wear suitable personal protective equipment (PPE) correctly.
2. How to identify hazards and implement safe work practices.
3. How to identify the need to re-queen.
4. How to assess the suitability of conditions for re-queening.
5. How to install replacement queen bee.
6. How to monitor activity of new queen bee and the threat of competition.
7. What are the relevant principles and practices of re-queening.
8. What are the conditions required for re-queening.
9. What are the factors that may affect brood production.
10. What are the factors to consider when identifying and removing undesirable queens and introducing new queens.
11. What are the procedures for replacing a queen bee with a nucleus colony.
12. What are the procedures for replacing an undesirable queen bee with a caged queen bee.
13. What are the basics of queen bee behaviour and brood pattern.
14. What is the selection criteria for a new queen bee.
15. What are the storage requirements of queen bees before being introduced into the colony.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Witness testimony
- Personal statement
- Written evidence (projects or assignments)
- Case study and scenario analysis

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidates must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, products and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **must not be used**.

UA21002**Assemble and repair beehives**

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to assemble and repair physical structures to function as beehives in accordance with local, regional and international protocols.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|---|---|
| 1. Prepare to assemble or repair beehives | <ul style="list-style-type: none"> 1.1 Identify and obtain required materials and equipment in accordance with industry requirements. 1.2 Check beehive components to ensure they are suitable for use in accordance with industry requirements. 1.3 Identify faulty components and replace, repair or dispose of them in accordance with organisational procedures. 1.4 Select and correctly wear appropriate personal protective equipment (PPE), according to industry and organisational requirements. 1.5 Adhere to workplace health and safety hazards and take appropriate action to minimise risks to self and others. 1.6 Confirm space requirements for the different areas of the hive in accordance with industry and organisational procedures. 1.7 Sanitise and assemble equipment prior to use in accordance with manufacturer's instructions and industry and organisational procedures. |
| 2. Assemble frames | <ul style="list-style-type: none"> 2.1 Select appropriate materials for assembling of frames in accordance with industry and organisational procedures. 2.2 Check frame parts for damage and complete any necessary repairs in accordance with organisational procedures. |

- 2.3 Assemble frames in accordance with organisational procedures and established industry guidelines.
 3. Fix foundation into frame
 - 3.1 Confirm the amount of wax foundation needed in accordance with industry requirements.
 - 3.2 Clean and prepare mounting board in accordance with organisational procedures.
 - 3.3 Select standard frame and foundations in accordance with organisational procedures.
 - 3.4 Affix foundations into frames in accordance with industry requirements.
4. Assemble and repair beehives
 - 4.1 Inspect beehives requiring repair to identify scope of job and required materials/equipment in accordance with organisational procedures.
 - 4.2 Assemble or repair beehive **components** using appropriate materials/equipment and construction techniques in accordance with organisational procedures.
 - 4.3 Apply appropriate **timber treatments** to beehive in accordance with organisational procedures and industry guidelines.
 - 4.4 Mark constructed or repaired beehive components clearly in accordance with organisational procedures and industry requirements.
 - 4.5 Maintain a clean and safe work site while working in accordance with organisational and industry requirements.
5. Clean up on completion of work
 - 5.1 Return, store or dispose of materials in accordance with organisational procedures and safe handling procedures.
 - 5.2 Clean, maintain and store equipment in accordance with manufacturer's specifications and organisational procedures.
 - 5.3 Submit reports on work outcomes in accordance with organisational procedures.

RANGE STATEMENT

All range statements must be assessed:

1. Materials:

- Timber hive components
- Nails
- Wire
- Comb
- Wax foundation

2. Equipment:

- Frames
- Foundation board
- Cutting tools
- Cleaning implements
- Hammer
- Pliers
- Feed equipment
- Hive tool
- Clamps
- Measuring equipment (rules, squares, etc.)

3. Components:

- Brood/next chamber
- Honey stores/supers
- Royal/queen cell
- Series of boxes/hive bodies with suspended frames containing foundation or comb
- Hive stand
- Floor/bottom board with entrance cleat
- Alighting board
- Inner and outer cover
- Queen excluder

4. Personal protective equipment:

- Hat with veil
- Gloves
- Overalls
- Safety boots
- Plain clothing
- Bee smoker
- Hive tool
- Garter (putty)

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. How to assemble construction materials and check that they present no risk of contamination to the environment or apiculture products.
2. How to select and use tools appropriate to the task.
3. How to assemble and repair frames and beehives.
4. How to mark beehives as repaired or newly assembled.
5. How to clean and maintain equipment after completion of work.
6. What are the principles and practices of beehive assembly and repair.
7. What are the general construction and health standards that have to be maintained for beehives.
8. What are the various hive components and the materials required to construct or repair them.
9. What types of timber are suitable for use in beehives and what materials and chemicals should be avoided and why.
10. What are the welfare issues relating to beekeeping.
11. How to determine space requirements within a hive.
12. How to properly perform the sanitizing and maintenance of hive equipment.
13. What are the relevant personal hygiene procedures to be observed.
14. How to correctly use personal protective equipment.
15. How to perform first aid procedures.
16. How to keep and maintain accurate records.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Witness testimony
- Personal statement
- Written evidence (projects or assignments)
- Case study and scenario analysis

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidates must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, products and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **must not be used**.

UA21102

Prepare and maintain beekeeping records

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to prepare and maintain records and to plan long/short term goals for beekeeping operations according to local, regional and international protocols.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|--|---|
| 1. Prepare for records keeping | 1.1 Identify and confirm appropriate data to be recorded in accordance with organisational policies and industry requirements. |
| | 1.2 Identify and confirm the method of record keeping to be used in accordance with organisational policies and industry requirements. |
| 2. Prepare inventory of apiary and equipment | 2.1 Check and record the number of colonies in each apiary in accordance with organisational policies and industry requirements. |
| | 2.2 Check equipment and record operational status and quantities in accordance with organisational policies and procedures. |
| | 2.3 Report equipment to be replaced or repaired to relevant persons in accordance with organisational procedures and industry requirements. |
| 3. Plan goal for apiary | 3.1 Collect and store production data for all hive products in accordance with organisational policies and industry requirements. |
| | 3.2 Collect and record information on floral availability in the area in accordance with organisational policies and industry requirements. |
| | 3.3 Collect and store information on local climatic conditions in accordance with organisational procedures and industry requirements. |

- 3.4 Assess, analyse and interpret production and marketing records in accordance with organisational procedures and industry requirements.
- 4. Plan work schedule
 - 4.1 Summarise, record and display weekly work load, in hours/tasks, in accordance with organisational policies and procedures.
 - 4.2 Identify and confirm work activities and priorities and prepare task list in accordance with organisational policies and procedures and industry requirements.
 - 4.3 Prepare and submit progress reports in accordance with organisational policies and procedures.

RANGE STATEMENT

All range statements must be assessed:

1. Data:

- Hive locations/apiary layout
- Work plans
- Presence of disease/pests
- Disease/pest control activities
- Colony temperament
- Dates and times of visits/activities
- Hive health
- Artificial feedings
- Harvests
- Hive productivity
- Hive alterations (e.g. removal or addition of frames)
- Brood size and pattern
- Presence of queen cells

2. Method of record keeping:

- Written (paper-based)
- Electronic (computer-based)

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. What are the main aspects of beekeeping operations.
2. How to prepare and maintain records book/hive diary used in beekeeping.
3. How to enter records in the records book.
4. What are the main aspects of bee behaviour.
5. How to determine the status of a bee colony.
6. How to perform long and short term goal planning for the apiary.
7. How to perform inventory and stocktaking in the apiary.
8. What are the kinds of equipment used in an apiary.
9. How to market hive products.
10. How to plan a daily/weekly work schedule.
11. How to implement a work schedule.
12. How to perform interactive workplace communication (verbal and nonverbal).
13. How to keep accurate records.
14. How to adequately plan for record keeping.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Witness testimony
- Personal statement
- Written evidence (projects or assignments)
- Case study and scenario analysis

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidates must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, products and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **must not be used**.

UA21202**Sell honey bee related products and services**

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to sell products and services while demonstrating a basic level of product/service knowledge and the skills to engage customers and close sales.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|-------------------------------|---|
| 1. Engage customer | <ul style="list-style-type: none"> 1.1 Approach customer in a timely and professional manner in accordance with organisational policies. 1.2 Engage customer using interpersonal skills to project confidence and establish rapport. 1.3 Present customers with purchase options that address their needs and assist them in identifying their preferred option. 1.4 Identify personal, professional and legal limitations in addressing customer needs and seek assistance from supervisor where required. |
| 2. Sell products and services | <ul style="list-style-type: none"> 2.1 Identify and confirm all prices and quotations in consultation with supervisor prior to providing price information to customers. 2.2 Complete sales to maximise potential for customer satisfaction in accordance with organisational policies. 2.3 Identify and respond to opportunities for up selling and repeat sales in accordance with organisational policies. |
| 3. Maintain products | <ul style="list-style-type: none"> 3.1 Handle and store products safely and efficiently in accordance with industry requirements and organisational policies. 3.2 Complete documentation and re-ordering in accordance with organisational policies and supervisor instructions. 3.3 Review sales techniques to enhance future sales results. |

RANGE STATEMENT

All range statements must be assessed:

1. Products:

- Honey
- Beeswax
- Propolis

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. What are the organisational policies and procedures pertaining to:
 - selling products and services
 - allocated duties and responsibilities
2. How to incorporate the following selling skills:
 - positioning
 - listening
 - questioning
 - relating
 - presence
 - checking
 - observation
3. How to effectively engage customers.
4. How to identify the potential for a sale and recognize customer buying signals.
5. How to effectively engage and communicate with a range of customers from culturally diverse backgrounds and of varying physical and mental abilities.
6. What merchandise and service range is offered by your organisation.
7. What is the general information customers will need pertaining to the specific products and services offered by your organisation.
8. How to follow enterprise work health and safety policies.
9. What are the relevant legal requirements in sales environments.
10. What are the elements of verbal and non-verbal communication that must be applied in sales.
11. How to solve problems and effectively handle difficult customers.
12. How to negotiate with customers.
13. How to close a sale.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Witness testimony
- Personal statement
- Written evidence (projects or assignments)
- Case study and scenario analysis

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidates must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, products and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **must not be used**.

UA21302**Harvest, extract and store honey**

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to harvest and process honey for consumption and use in industrial processes. It involves removing honey-filled combs from the hive to other boxes for transportation and operating honey extraction equipment safely to extract honey.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

1. Prepare to remove honey
 - 1.1 Select required **tools and equipment** and check to ensure they are in good working order before use in accordance with organisational procedures.
 - 1.2 Select and correctly wear appropriate **personal protective equipment (PPE)**, according to industry and organisational requirements.
 - 1.3 Identify work health and safety **hazards** and take action to minimise risks to self and others in accordance with organisational procedures.
 - 1.4 Identify, confirm and observe any site quarantines or other biosecurity protocols in accordance with organisational policies and procedures and industry requirements.
 - 1.5 Assess the honey to ensure it is mature enough to be harvested in accordance with industry and organisational procedures.
 - 1.6 Identify, confirm and comply with any withholding periods for honey bee medications and treatments in accordance with organisational procedures.
 - 1.7 Identify and confirm the date, time, location and quantity of honey to be removed in the honey removal plan in accordance with organisational policies and procedures.
2. Remove honey from the hive
 - 2.1 Remove bees from honey-filled combs using a suitable **bee removal method** in accordance with industry requirements and organisational procedures.

- 2.2 Remove honey frames from the hive in accordance with organisational procedures.
 - 2.3 Transport honey-filled frames to extracting facility in accordance with organisational procedures.
 3. Prepare to extract honey
 - 3.1 Check all **honey extraction equipment** to ensure it is clean, dry, sanitised and serviceable in accordance with organisational procedures.
 - 3.2 Identify, confirm and comply with industry and organisational requirements for personal hygiene, food safety and quality assurance relative to the honey extraction process.
 4. Extract honey
 - 4.1 Inspect frames visually for areas of brood and, if found, uncap frames by hand to avoid brood in accordance with industry and organisational procedures.
 - 4.2 Uncap cells in a manner that avoids damage to cells and frames in accordance with accepted industry practices.
 - 4.3 Extract honey using an appropriate **honey extraction method** in accordance with industry and organisational requirements.
 - 4.4 Filter out wax, air bubbles and other impurities from the extracted honey in accordance with organisational procedures.
 5. Store honey
 - 5.1 Store cleaned honey in suitable containers in accordance with relevant health regulations, customer requirements and organisational procedures.
 - 5.2 Clean, dry and sanitise all equipment in accordance with organisational procedures.

RANGE STATEMENT

All range statements must be assessed:

1. Tools and equipment:

- Hive tools
- Smoker
- Brush
- Collection containers
- Frame grippers

2. Personal protective equipment (PPE):

- Protective jacket
- Hat with veil
- Gloves

3. Hazards:

- Aggressive bees
- Bee smoker (burns)
- Bee venom (allergic reactions)
- Smoke

4. Bee removal methods:

- Shaking
- Brushing
- Bee escape

5. Honey extraction equipment:

- Uncapping knife
- Extractors
- Sieve
- Containers

6. Honey extraction methods:

- Manual
- Mechanical

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. What are the principles and practices of honey removal.
2. How to work safely with and around bees.
3. What are the most suitable methods for removing bees and honey-filled frames from hive.
4. What are the food safety requirements for extracting and handling honey.
5. How to handle frames and combs filled with honey so that they are not contaminated with dust, dirt or water.
6. How to distinguish between honey cells and brood cells.
7. What are the indicators that honey is ready to be harvested.
8. What are the withholding periods of the various bee medications and/or treatments.
9. What are the principles and practices of honey extraction.
10. What are the potential contaminants to be considered when planning the time and location of the honey removal.
11. What are the impacts of honey removal on a bee colony.
12. How to control the quality of honey obtained from a hive.
13. What are the factors affecting the quantity of honey to be removed from hive.
14. What are the relevant biosecurity protocols for honey extraction and movement.
15. What are the types of equipment for honey extraction and relevant maintenance requirements.
16. What are the relevant food safety systems and requirements for honey extraction and storage.
17. How to store extracted honey to reduce the risk of spoilage.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Witness testimony
- Personal statement
- Written evidence (projects or assignments)
- Case study and scenario analysis

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidates must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, products and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **must not be used**.

UA21402**Collect and store propolis**

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to collect and store propolis from honey bee hives in accordance with food safety and quality assurance requirements.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|--|--|
| 1. Prepare to collect propolis | <ul style="list-style-type: none"> 1.1 Select or acquire suitable colony in accordance with supervisor's instructions. 1.2 Clean and sanitise equipment to be used in collection of propolis in accordance with organisational procedures and industry requirements. 1.3 Select and correctly wear appropriate personal protective equipment (PPE), according to industry and organisational standards. 1.4 Adhere to work health and safety hazards and take action to minimise risks to self and others. 1.5 Construct and install suitable propolis trap or create cracks for bees in which to place propolis in accordance with organisational procedures and industry requirements. 1.6 Stimulate propolis production by manipulation of environmental conditions. |
| 2. Collect, extract and store propolis | <ul style="list-style-type: none"> 2.1 Remove propolis from trap in accordance with organisational procedures. 2.2 Collect, handle and store propolis in accordance with organisational quality assurance and food safety requirements. 2.3 Collect and handle propolis in accordance with organisational personal hygiene requirements. |

RANGE STATEMENT

All range statements must be assessed:

1. Personal protective equipment (PPE):

- Protective jacket
- Hat with veil
- Gloves

2. Hazards:

- Aggressive bees
- Bee smoker (burns)
- Bee venom (allergic reactions)

3. Environmental conditions:

- Density of honey bee colony
- Plant diversity of apiary site
- Seasonal (dry/rainy) relocation of hive
- Rough surfaces within the hive
- Manipulating hive cover to increase light penetration and circulation

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. How to correctly use appropriate personal protective clothing (PPE).
2. What are the functions of propolis in a honey-bee hive and what are the risks posed to bees by removing it.
3. How to apply quality assurance and food safety procedures to collection, extraction and storage of propolis.
4. How to handle bees and work safely around them.
5. How to judge the suitability of a colony for propolis collection.
6. How to remove propolis from propolis traps while minimising the presence of debris and contaminants (bee parts, paint, wood chips, beeswax, etc.).
7. How to maintain a healthy hive and colony.
8. How to identify propolis and distinguish it from other substances collected by bees.
9. How to identify suitable flora for propolis production.
10. What are the basic characteristics of bees and their behaviour.
11. What are the relevant food safety requirements pertaining to propolis.
12. What are the relevant quality assurance requirements designed for the honey industry.
13. What are suitable conditions for collecting propolis.
14. What are the potential constraints on collecting propolis.
15. What are the appropriate conditions for storing propolis.
16. What are the relevant applications for propolis.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Witness testimony
- Personal statement
- Written evidence (projects or assignments)
- Case study and scenario analysis

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidates must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, products and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **must not be used**.

UA21502**Trap and store pollen**

Unit Descriptor:

This unit deals with the knowledge, skills and attitudes required to install a suitable pollen trapping mechanism and store pollen appropriately for its intended use.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|-------------------------------------|---|
| 1. Prepare to trap and store pollen | <ul style="list-style-type: none"> 1.1 Identify suitable floral resources in accordance with industry guidelines. 1.2 Assess colony for suitability for pollen collection in accordance with industry guidelines. 1.3 Select and correctly wear appropriate personal protective equipment (PPE), according to industry and organisational requirements. 1.4 Adhere to work health and safety hazards and take appropriate action to minimise risks to self and others. 1.5 Clean equipment to be used in the process of collecting pollen in accordance with organisational and food safety requirements. |
| 2. Collect pollen | <ul style="list-style-type: none"> 2.1 Install suitable pollen trapping mechanism in hive in accordance with accepted industry practices. 2.2 Collect and handle pollen in accordance with accepted industry practices and personal hygiene requirements. 2.3 Collect pollen at appropriate frequency in accordance with accepted industry practices. 2.4 Assess risk posed by pests and take steps to reduce these risks in accordance with industry procedures and requirements. 2.5 Assess risk of colony decline and stop pollen collection where necessary in accordance with industry guidelines and procedures. |

3. Store pollen
 - 3.1 Clean pollen to remove all foreign material according to accepted industry practices.
 - 3.2 Dry pollen to achieve the required moisture content in accordance with accepted industry practices.
 - 3.3 Store dried pollen in accordance with organisational procedures and industry practices.
 - 3.4 Freeze undried pollen immediately in a manner that prevents fermentation and deterioration in accordance with organisational and industry procedures.

RANGE STATEMENT

All range statements must be assessed:

1. Personal protective equipment (PPE):

- Protective jacket
- Hat with veil
- Gloves

2. Hazards:

- Aggressive bees
- Bee smoker (burns)
- Bee venom (allergic reactions)

3. Equipment:

- Pollen traps
- Collection trays
- Absorbent liners (moisture reduction)

4. Pests:

- Ants
- Wax moth grubs

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. How to install a suitable pollen trap.
2. How to assess the suitability of colonies for pollen collection.
3. How to correctly wear appropriate personal protective equipment (PPE).
4. How to collect pollen.
5. How to manage honey bee hives.
6. How to maintain appropriate records.
7. How to handle bees.
8. How to clean and sanitise equipment used to collect pollen from bees.
9. What are the principles and practices of trapping and storing pollen.
10. How to determine bee colony pollen requirements.
11. What are the relevant floral sources of pollen production.
12. What moisture content is appropriate to prevent fermentation and deterioration of collected pollen.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Witness testimony
- Personal statement
- Written evidence (projects or assignments)
- Case study and scenario analysis
- Role play/simulation

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidates must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, products and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **must not be used**, except in exceptional circumstances where natural work evidence is unlikely to occur.

Assessment methods

The methods which can be used to determine competence in performance and underpinning knowledge.

Assessors

The Assessor's role is to determine whether evidence presented by a candidate for assessment within the programme, meets the required standard of competence in the relevant unit or element. The Assessor needs to be competent to assess to national standards in the area under assessment.

Approved Centre

Organization/Centre approved by the TVET Council to offer full National Vocational Qualifications.

Case Studies

In situations where it is difficult for workplace assessment to take place, case studies can offer the candidate an opportunity to demonstrate potential competence.

A case study is a description of an actual or imaginary situation presented in some detail. The way the case study is presented will vary depending upon the qualification, but the most usual methods are written, taped or filmed.

The main advantage of a case study is the amount of evidence of underpinning knowledge they can generate and the specific nature of the evidence produced.

Competence

In the context of vocational qualifications, competence means: the ability to carry out prescribed activities to nationally pre-determined standards in an occupation. The definition embraces cognitive, practical and behavioural skills, underpinning knowledge and understanding and the ability to react appropriately in contingency situations.

Element

An element is a description of an activity which a person should be able to do. It is a description of an action, behaviour or outcome which a person should be able to demonstrate.

Explanation of NVQ Levels

NVQs cover five (5) levels of competence, from entry level staff at Level 1 through to senior management at Level 5.

Level 1 - Entry Level

Recognizes competence in a range of varied work activities performed in a variety of contexts. Most work activities are simple and routine. Collaboration with others through work groups or teams may often be a requirement. Substantial supervision is required especially during the early months evolving into more autonomy with time.

Level 2 - Skilled Occupations:

Recognizes competence in a broad range of diverse work activities performed in a variety of contexts. Some of these may be complex and non-routine and involve some responsibility and autonomy. Collaboration with others through work groups or teams and guidance of others may be required.

Level 3 - Technician and Supervisory Occupations:

Recognizes competence in a broad range of complex, technical or professional work activities performed in a wide variety of contexts, with a substantial degree of personal responsibility and autonomy. Responsibility for the work of others and the allocation of resources are often a requirement. The individual is capable of self-directed application, exhibits problem solving, planning, designing and supervisory capabilities.

Level 4 - Technical Specialist and Middle Management Occupations:

Recognizes competence involving the application of a range of fundamental principles and complex techniques across a wide and unpredictable variety of contexts. Requires very substantial personal autonomy and often significant responsibility for the work of others, the allocation of resources, as well as personal accountability for analysis, diagnosis, design, planning, execution and evaluation.

Level 5 - Chartered, Professional and Senior Management Occupations:

Recognizes the ability to exercise personal professional responsibility for the design, development or improvement of a product, process, system or service. Recognizes technical and management competencies at the highest level and includes those who have occupied positions of the highest responsibility and made outstanding contribution to the promotion and practice of their occupation.

External Verifier

The External Verifier is trained and appointed by the TVET Council and is competent to approve and ensure an approved Centre's quality of provision.

Internal Verifier

The Internal Verifier acts in a supporting role for Assessors to ensure consistent quality of assessment and competence. They need to be competent to assess to national standards in the area under assessment.

NVQ

National Vocational Qualifications (NVQs) are work-based qualifications that assess an individual's competence in a work situation and certify that the individual can perform the work role to the standards expected in employment.

NVQs are based on national occupational standards of competence drawn up by standards-setting bodies known as Industry Lead Bodies. The standards describe the level and breadth of performance that is expected of persons working in the industry or sector which the NVQ covers.

NVQ Coordinator

Within each approved Centre offering NVQs, there is a centre contact who has overall responsibility for the operation and administration of the NVQ system.

Observation

Observation of the candidate carrying out his/her job in the workplace is the assessment method recommended in the vast majority of units and elements. Observation of staff carrying out their duties is something that most supervisors and managers do every day.

Performance criteria

Performance criteria indicate what is required for the successful achievement of an element. They are descriptions of what you would expect to see in competent performance.

Product of Work

This could be items produced during the normal course of work, which can be used for evidence purposes such as reports, menus, promotional literature, training plans, etc.

Questioning

Questioning is one of the most appropriate ways to collect evidence to assess a candidate's underpinning knowledge and understanding.

Questioning can also be used to assess a candidate in those areas of work listed in the range which cannot be assessed by observation. Guidance on when this assessment method can be used is given in the assessment guidance of each individual element.

As an assessment method, questioning ensures you have all of the evidence about a candidate's performance. It also allows you to clarify situations.

Range statements

The range puts the element of competence into context. A range statement is a description of the range of situations to which an element and its performance criteria is intended to apply.

Range statements are prescriptive therefore each category must be assessed.

Role-plays

Role-plays are simulations where the candidate is asked to act out a situation in the way he/she considers “real” people would behave. By using role-play situations to assess a candidate you are able to collect evidence and make a judgment about how the candidate is most likely to perform. This may be necessary if the range specified includes a situation in which the candidate is unlikely to find himself/herself in the normal course of their work, or where the candidate needs to develop competence, before being judged competently, for example, in a disciplinary situation.

Simulations

Where possible, assessment should always be carried out by observing **natural performance** in the workplace. **Simulated performance**, however, can be used where specified to collect evidence about an aspect of the candidate’s work which occurs infrequently or is potentially hazardous; for example, dealing with fires.

By designing the simulated situation, briefing the candidate and observing his/her performance, you will be able to elicit evidence which will help you judge how a candidate is **most likely** to perform in real life.

Supplementary evidence

Supplementary evidence can be used to confirm and support performance evidence. Types of supplementary evidence include witness testimonies, reports, journals or diaries, records of activities, personal statements, simulation (see note in glossary).

Underpinning knowledge

Underpinning knowledge indicates what knowledge is essential for a person to possess in order to successfully achieve an element and prove total competence.

Units

A unit of competence describes one or more activities which form a significant part of an individual’s work. Units are accredited separately but in combination can make up a vocational qualification. There are three categories of units:

Mandatory units - are core to a qualification and must be completed.

Optional units - candidates must choose the required number of individual units, specified in the qualification structure, to achieve the qualification.

Additional units - are units which the candidate can undertake but are not a requirement to achieve a qualification.

Work-based projects

Work-based projects are a useful way for you to collect evidence to support any decision you make about a candidate's performance. They are particularly appropriate in determining the level of a candidate's underpinning knowledge and understanding where it may be insufficient to rely only on questioning observation.

A project often involves the identification of a solution to a specific problem identified by you and/or the candidate (such as looking at ways to redress a recent drop in sales), or may be a structured programme of work built around a central situation or idea (such as the introduction of a new job rostering process).