# Assessment Guide for Assessors & Facilitators

# Crop Protection – Application

## Level 2



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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Title:** | | **Apply Plant Protection Products Effectively and Responsibly** | | | | | |
| **Applied Title:** | | **Apply Plant Protection Products Effectively and Responsibly in a Citrus Production Environment** | | | | | |
| **Field:** | | Agriculture and Nature Conservation | | | | | |
| **Sub-Field:** | | Primary Agriculture | | | | | |
| **SETA (SGB):** | | AgriSETA | | | | | |
| **Skills Area:** | | Crop Protection | | | | | |
| **Context:** | | Citrus Production | | | | | |
| **US No:** | 116125 | **Level:** | 2 | **Credits:** | 4 | **Notional Hours:** | 40 |
| **Author:** | | C. Pountney | | | | | |

Based on the Production Guidelines of:

Supported by:

**Unit standard alignment and assessment tool development:**
Cabeton Training and Development

**Project coordinator:**
Jacomien de Klerk

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# Directions

**Please Note:** There is a separate assessment guide for the learner. The learner must use this guide to prepare himself / herself for the assessment.

This assessment guide contains all necessary activities and instructions that will enable the assessor and learner to gather evidence of the learner's competence as required by the unit standard. This guide was designed to be used by a trained and accredited assessor who is registered to assess this specific unit standard as per the requirements of the AgriSETA ETQA.

Prior to the delivery of the program the facilitator and assessor must familiarise themselves with content of this guide, as well as the content of the assessment guide for learners.

The assessor, facilitator and learner must plan the assessment process together, in order to offer the learner the maximum support, and the opportunity to reflect competence.

The policies and procedures that are applicable during the execution of this assessment are available on the website of the Citrus Academy, contained in a document named Policies and Procedures for Assessment, and must be strictly adhered to. The assessor must familiarise himself with this document before proceeding.

This guide provides step-by-step instructions for the assessment process of:

| | | | | | |
|---|---|---|---|---|---|
| **US No:** | 116125 | **Level:** | 2 | **Credits:** | 4 |

The step-by-step instructions agree and are conducted in concert with the steps described in the learner assessment guide. The steps are as follows:

| ***Step*** | ***Description*** | ***Timeframe*** |
|---|---|---|
| 1 | Learner Assessment Contract | Before delivery of program |
| 2 | Learner Declaration of Authenticity | Before delivery of program |
| 3 | Diagnostic Assessment of Learning Assumed to be in Place | Before delivery of program |
| 4 | Assessment Plan for Gathering of Evidence | Before delivery of program |
| 5 | Learner Formative Assessment Activities | During delivery of program, assessment after delivery of program |
| 6 | Poster Design and Presentation | After delivery of program |
| 7 | Integrated Summative Assessment Tool | After delivery of program |
| 8 | Re-assessment Procedures | After completion of assessment |
| 9 | Documentation | After completion of assessment |
| 10 | Administration and Completion of Portfolio of Evidence | After completion of assessment |

# Step 1

## Pre-Assessment Briefing and Checklist

A pre-assessment briefing for learners is held before the delivery of the program. Use the checklist below to ensure that all these points are addressed and discussed with the learners.

| Pre-Assessment Briefing Checklist | | |
|---|---|---|
| | √ | X |
| Organise resources – people, equipment, venue, etc. | | |
| Explain the purpose of the assessment | | |
| Discuss the standards or criteria to be used | | |
| Discuss assessment roles and accountabilities | | |
| Decide on assessment venues | | |
| Negotiate evidence required, and where or how this evidence may be gathered | | |
| Explain the methods of assessment that will be used during the gathering and summing up of evidence | | |
| Negotiate the date of submission for the activity workbook and the date for the summative assessment | | |
| Discuss resources required for the assessment e.g. equipment, materials, etc. | | |
| Explain the procedure if the learner is found to be not yet competent | | |
| Explain the appeal and review procedures | | |
| Identify any potential learning barriers and negotiate strategies to overcome these | | |
| Complete and sign the assessment plan with the learner | | |

The learner and assessors must sign the **Learner Contract** in the learner assessment guide.

# Step 2

## Learner Declaration of Authenticity

The learner is requested to complete and sign the Declaration of Authenticity in the learner assessment guide. This should be checked and co-signed by the assessor.

The format is as reflected in the learner assessment guide.

# Step 3

## Diagnostic Assessment of Learning Assumed to be in Place

In the learner assessment guide, the learner is asked to indicate whether they have completed the learning assumed to be in place as prescribed by the unit standard.

The assessor must guide the learners through this step, explaining in detail the content of the mentioned learning areas, because names of learning programs do not always agree with the names of the unit standards, and learners might indicate the incorrect information.

If learners indicate that they have not yet completed the mentioned unit standards, the assessor should prescribe an action plan to allow the learner to obtain the skills required by recommending additional training, competence portfolios, or the relevant RPL assessment for the given unit standards.

The format is as reflected in the assessment guide for learners. Please read it and familiarise yourself with its content.

# Step 4

## Assessment Plan for Gathering of Evidence

A pro-forma assessment plan for this unit standard has been drafted in the learner assessment guide. Explain the plan to the learner and complete the dates and signatures as indicated.

The format for the assessment plan is as reflected in the assessment guide for learners. Please read it and familiarise yourself with its content. Make a note of the dates agreed upon in the table provided below.

| **Learner and Assessor Assessment Plan** | | |
|---|---|---|
| **Unit Standard** | Apply Plant Protection Products Effectively and Responsibly | |
| **Registration Number** | 116125 | |
| ***Step*** | ***Description*** | ***Completion / Submission Date*** |
| **Step 5** | Learner Formative Assessment Activities | |
| **Step 6** | Poster Design and Presentation | |
| **Step 7** | Integrated Summative Assessment | |
| **Step 8** | Re-Assessment Procedures | |
| **Step 9** | Documentation | |
| **Step 10** | Administration and Completion of Portfolio of Evidence | |

# Step 5

## Learner Formative Assessment Activities

The learner assessment guide contains comprehensive activities and worksheets that the learner must complete during the delivery of the learning program. It is imperative that these activities be completed as part of the learning process in order to give the learner the opportunity to develop the skills, knowledge and attitudes that are required for competence.

Learners must complete all the activities in the workbook.

Learners must be encouraged to take control of their learning by indicating areas in the workbook where they experience difficulty.

The learner hands in the learner assessment guide to the assessor or the facilitator, only if the facilitator is a subject matter expert, for the assessment of the formative assessment activities. The assessment of these activities must be done according to the prescribed benchmarks and according to the following marking matrix.

The learner should not move on to the next step before this step has been completed and learners show sufficient capacity and readiness for summative assessment. If problems areas are identified, the learner should be guided with a developmental action plan, which is documented separately and signed by the learner, the facilitator and the assessor.

**Model answers are provided below.**

**Activity 1 – Worksheet**

Go to the farm where you are completing your practical training and find a plant protection product label. Labels can also be found on the Internet. Complete the worksheet below from the information on the product label.

**Answers will vary depending on product used. Below is an example only.**

| | |
|---|---|
| Product Name | **Roundup** |
| Physical description | **Glyphosate containing herbicide** |
| Chemical composition | **Glyphosate (Glysine); 360g s.e per litre** |
| Pre-harvest interval | **Not applicable** |
| Product expiry date | **31/08/2008** |
| Product toxicity | **Highly toxic** |
| Activity indications | **Plant reaction will be seen 14-21 days after application; application not to exceed 200l/ha; active against weeds with G status of resistance** |

**Activity 2 – Interview an Expert**

Interview the crop protection manager or supervisor on the farm on which you are doing your practical and gather the following information regarding a crop protection application on the farm.

**Answers will vary depending on circumstances. Below is an example only.**

| | |
|---|---|
| Block or orchard where application is made: | **Block GS3, describe cultivar and rootstock combination** |
| Reason for the protective application and target pests and diseases: | **Part of prescribed spray program, targeting thrips and blackspot** |
| Name of the product(s) to be used: | **Cypermethrin, Dithane M45, BP medium oil** |
| Volume of product(s) that is required: | **Cypermethrin – 20ml / 100 litres water**<br>**Dithane M45 – 150g / 100 litres water**<br>**BP medium oil – 300ml / 100 litres water** |
| Special instructions or warnings for use and application of product: | **Application Instructions: Full Cover**<br>**Withholding Period: 28 Days** |
| Equipment needed for application: | **Mistblower** |
| Workers needed for application: | **Mixer, tractor drivers** |
| Protective gear and clothing that should be worn: | **Overalls, rubber boots, rubber gloves, eye protection, mask, rain suit and hat** |
| Emergency equipment that has to be available: | **Fire extinguisher, saw-dust, sand, water, etc.** |
| Special facilities needed to mix or in the application of the product: | **Follow mixing instructions; mix in an enclosed area** |
| Climatic conditions that should be taken into account before and during the application: | **No spraying in wind conditions over 20 km/h** |
| People to inform of spray application action: | **Worker teams; local community; other farmers** |
| Animal control actions prior to application: | **Move animals out of area to other camps** |

**Activity 3 – Brainstorm**

Hold a group brainstorm and complete the pre-application checklist below, on which some information has been provided.

**Pre-Application Checklist**

**Crop Protection Program Instructions:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Orchard Number | Orchard 10 | | Size and No of Trees | | 50ha; 27,750 trees | | |
| Application Date | From: 13/10 | | To: 15/10 | | | | |
| Target Pest(s)/Disease(s) | Thrips and Blackspot | | | | | | |
| Chemicals | Cypermethrin | | Dithane M45 | | BP medium oil | | |
| PHIs | **28 days** | | **21 days** | | **Nil** | | |
| Chemical Concentration | *Chemical* | | *Concentration* | | *Per* | | |
| | Cypermethrin | | 20 ml | | 100 litres water | | |
| | Dithane M45 | | 150 g | | 100 litres water | | |
| | BP medium oil | | 300 ml | | 100 litres water | | |
| Application Method | Trunk Application | | Soil Drench | | Spray | X | |
| Spray Type | Light Cover | | Medium Cover | | Full Cover | X | |
| Other Instructions | Apply 15ℓ per tree, do not spray if the wind exceeds 20km per hour | | | | | | |

| **Chemical Requirements:** | | | | | |
|---|---|---|---|---|---|
| *Chemical* | *Quantity Required* | *Unit* | *Units Required* | *Check* | |
| | | | | *Available* | *Expiry* |
| Cypermethrin | **83.25ℓ (Calc e.g.: 27,750 x 15ℓ = 416,250ℓ 416,250/100 4,162.5 x 20ml 83,250ml)** | 1ℓ containers | **84 containers** | **Yes** | **e.g. 06/2008** |
| Dithane M45 | **624.38kg (Calc e.g.: 27,750 x 15ℓ = 416,250ℓ 416,250/100 4,162.5 x 150g 624,375g)** | 25kg bags | **25 bags** | **Yes** | **e.g. 07/2007** |
| BP medium oil | **1,248.75ℓ (Calc e.g.: 27,750 x 15ℓ = 416,250ℓ 416,250/100 4,162.5 x 300ml 1,248,750ml)** | 210ℓ drums | **6 drums** | **Yes** | **e.g. 09/2008** |

| **Equipment Requirements:** | | | |
|---|---|---|---|
| *Description* | *Quantity* | *Check* | |
| | | *Available* | *Condition* |
| **Eagle Mist Blowers with 3000 litre tanks** | **2** | **Yes** | **Serviced in July** |
| | | | |
| | | | |
| | | | |

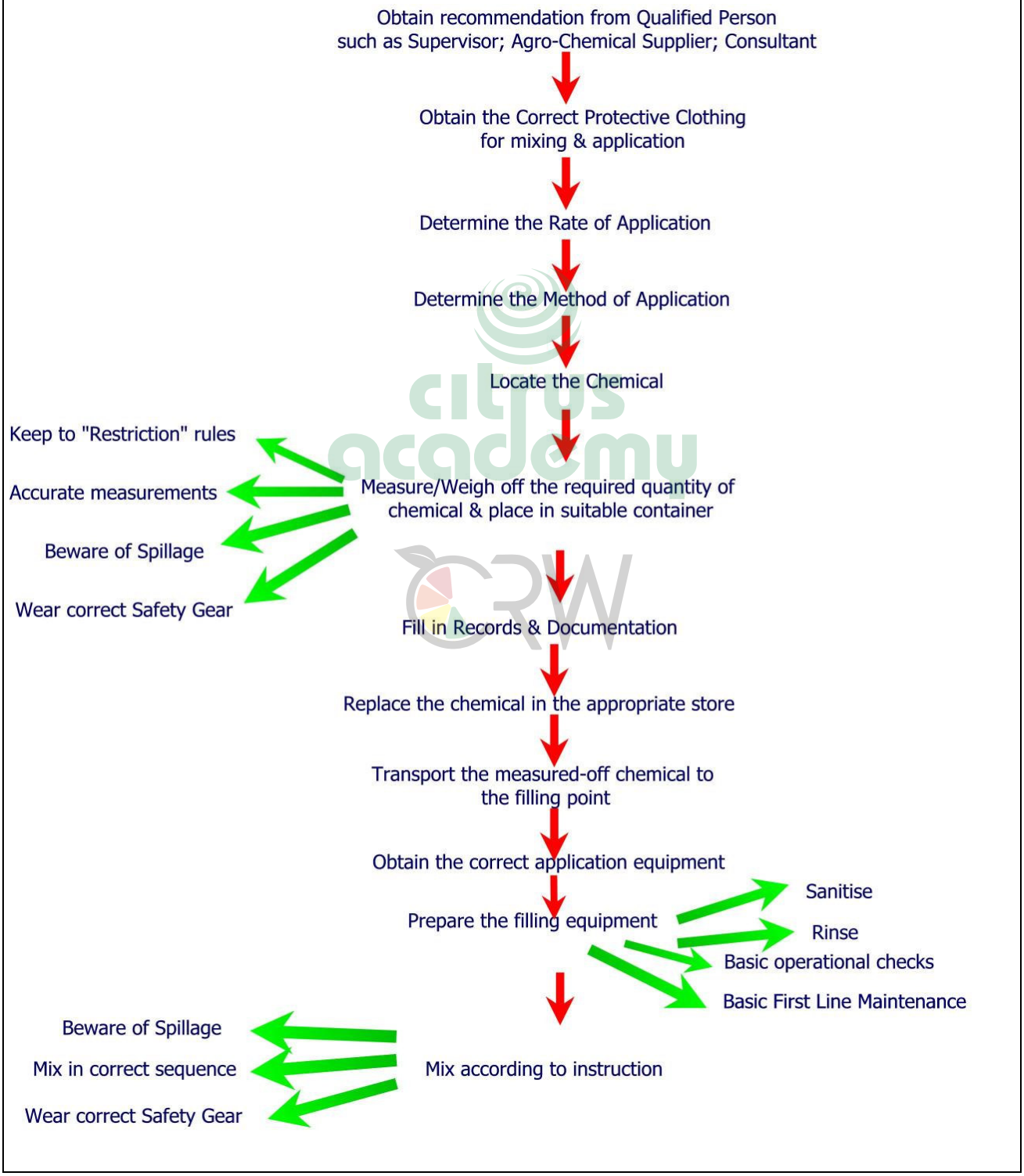
| **Worker Requirements:** | | | |
|---|---|---|---|
| *Description* | *Number* | *From* | *To* |
| **Tractor Drivers** | **2** | **13/10** | **15/10** |
| **Chemical Mixer** | **1** | **13/10** | **15/10** |
| | | | |

| **Other Requirements:** |
|---|
| **Tractor drivers to wear full protective clothing**<br>**Chemical mixer to wear overall, gumboots, gloves and respirator** |
| **Notes:** |

| **e.g. Fill spray machine tanks half with water then add chemicals. Make that agitators in the spray tanks are revolving** | | | |
|---|---|---|---|
| **Signed:** | | **Date:** | |

**Activity 4 – Flow Diagram**

Draw a flow diagram of the correct procedure for preparing the spray material for the application for which the pre-application plan was done in activity 3. Note the equipment required for each step and the health and safety precautions that should be taken.



| **Activity 5 – Practical Task** | | | |
|---|---|---|---|
| Take part in at least two instances where spray material is prepared and mixed on the farm where you are completing your practical training. During the practical task, pay attention to the following and make key notes for yourself.<br><br>Attach the signatures from your mentor, supervisor, or the crop protection manager confirming that you completed the task. | | | |
| Names and examples of plant protection products: | **No model answer due to variation in circumstances.** | | |
| Examples of colour codes, symbols and pictograms that I have observed and what they mean: | **No model answer due to variation in circumstances.** | | |
| The procedure for correctly calculating the amount of chemical required from the information on the crop protection program: | **No model answer due to variation in circumstances.** | | |
| The procedure for correctly mixing the product according to the manufacturers' instructions: | **No model answer due to variation in circumstances.** | | |
| The correct mixing equipment that should be available and how it is used: | **No model answer due to variation in circumstances.** | | |
| The health and safety procedures that should be followed during the handling and mixing of chemicals: | **No model answer due to variation in circumstances.** | | |
| The correct procedures for storing chemicals. | **No model answer due to variation in circumstances.** | | |
| The correct procedures for cleaning, sanitising and storing equipment. | **No model answer due to variation in circumstances.** | | |
| **Learner's Signature** | | **Date:** | |
| **Assessor's Signature** | | **Date:** | |

| **Activity 6 – Practical Task** | |
|---|---|
| Take part in at least two instances where plant protection products are applied on the farm where you are completing your practical learning. During the practical task, pay attention to the following and make key notes for yourself.<br><br>Attach the signatures from your mentor, supervisor, or the crop protection manager confirming that you completed the task. | |
| Names of examples of plant protection products: | **No model answer due to variation in circumstances.** |
| The weather conditions that should be taken into account before and during an application: | **No model answer due to variation in circumstances.** |
| The calibration procedures that should be adhered to: | **No model answer due to variation in circumstances.** |
| The product instructions for application: | **No model answer due to variation in circumstances.** |
| Application methods that can be used for this product: | **No model answer due to variation in circumstances.** |

| | |
|---|---|
| Protective gear and clothing that should be worn prior to and during application: | **No model answer due to variation in circumstances.** |
| Step-by-step procedures to follow during the application: | **No model answer due to variation in circumstances.** |

| | ***Key Notes*** | ***Possible Consequences if Procedures are Not Adhered to*** |
|---|---|---|
| Protecting self and co-workers | **Prevent harm to self and others through negligence, spillage, and incorrect use of equipment.** | **Accidents, injuries, incidents.<br>Broken or damaged equipment.<br>Possible disciplinary action.** |
| Protecting non-targeted organisms | **Chemicals selected to act against specific organism.<br>All organisms in the spray environment not regarded as harmful and should thus be protected as much as possible.** | **Imbalance in ecosystems, leaving room for higher populations of harmful organisms.** |
| Protecting the environment | **Chemicals pose a threat to natural resources and groundwater and should be applied keeping this in mind.** | **Pollution of natural resources could render them useless or decrease their quality which in turn affects the quality of crop produced.** |
| Wearing and using a full set of protective clothing and gear correctly | **Prevent injury to self.<br>Prevent direct contact with chemicals.<br>Prevent ingestion of chemicals.** | **Could lead to illness or injury.<br>Could in extreme cases lead to death.** |
| Keeping protective clothing and gear in good working condition and state of repair. | **Assure integrity and working order of safety gear.** | **Possibility of accident or injury increases with faulty safety gear.** |
| Products are stored correctly and safely | **Prevent combustion.<br>Prevent reactions between substances.<br>Prevent unauthorised use.<br>Limit chances of spillage and injury.** | **Increased risk of accident / injury.<br>Increased risk of fires.<br>Increased risk of chemical reactivity being compromised.** |
| Correct disposal of empty chemical containers | **Prevent pollution of natural resources.<br>Prevent use of containers for wrong purpose.** | **Increased risk of chemicals leaching out into soil water or water source.<br>Increased fire hazard.<br>Poisoning of organisms might occur if container used incorrectly.** |
| Avoiding soil and water contamination | **Limit spills and pollution as well as incorrect application of chemicals.** | **Deterioration of natural resources will ultimately affect the quality of the crop.** |
| Correct climatic conditions for spray applications | **Ensure that the wind does not exceed 20km/hr.<br>Do not apply oil if the temperature exceeds 30°C.<br>Ensure that the trees are not wet from rain or dew.** | **Spray drift may poison or harm animals or other crops.<br>The oil could burn fruit and foliage.<br>The spray material will be diluted and less effective** |

| | | |
|---|---|---|
| Non-authorised workers are prevented from coming into contact with chemicals. | **Prevent accidents, injuries or poisoning.**<br>**Control stock.**<br>**Control applications.** | **Increased risk of accidents, injuries or poisoning.**<br>**Stock control compromised.**<br>**Incorrect / insufficient applications occur.** |
| Rest of the workers are informed of the application activity | **Avoid accident, injury or poisoning of others.**<br>**Remove workers from vehicle paths.** | **Increased risk of accident, injury or poisoning.**<br>**Increased risk of pedestrian injuries or death.** |

| | | | |
|---|---|---|---|
| **Learner's Signature** | | **Date:** | |
| **Assessor's Signature** | | **Date:** | |

**Activity 7 – Practical Task**

During the practical task of applying plant protection products, pay attention to the postharvest procedures and make key notes for yourself.

| | |
|---|---|
| Application equipment is cleaned thoroughly. | **Once the application has been completed, all machinery must be washed with clean water and stored for future use.**<br>**If spray equipment is not cleaned properly after use, the danger of contamination remains, and people, animals and the environment may be placed at risk.**<br>**Certain chemicals are corrosive, and spray equipment that are not properly washed may be damaged.** |
| Waste products and empty containers are collected, cleaned and discarded | **Empty chemical containers must under no circumstances be reused for any purpose whatsoever. Even if the container has been washed thoroughly, the risk of contamination is too high. Empty chemical containers must be disposed of.**<br>**Empty containers must be rinsed by filling it to about a quarter with clean water, closing it and shaking it well. Pour the rinse water into the spray tank. Repeat this process at least three times. Puncture the container after rinsing so that it cannot be reused.**<br>**Once containers have been punctured, they must be reduced (flattened) in bulk and buried at a disposal site in a pit. The disposal site must be:**<br>• **At least 50m from the nearest water source (dam, river and borehole).**<br>• **On relatively high ground or where the ground water is at least 2m deep.**<br>• **Not in sandy soils that leach easily.**<br>• **Fenced and sign posted.**<br>**Waste bags, paper and mildly contaminated items must be burned, while severely contaminated items and redundant chemicals must be disposed of using a high-temperature** |

| | |
|---|---|
| | **incinerator, which can also be used for empty containers. Please note however that containers of highly flammable chemicals must not be burned, even if they have been rinsed. It is recommended that a professional waste disposal company may be contacted in this regard.** |
| Empty containers are not used for other purposes | **For example punch holes into containers when empty and lock in restricted access store room.** |
| Protective gear is cleaned, maintained and stored correctly | **Clean all protective clothing and equipment thoroughly and store in the prescribed manner.** |
| Personal hygiene is applied | **On completing the spray task, all persons involved should bathe and dress in clean clothing. Do not dress again in clothes that were used for the spray operation unless they have been laundered properly.** |

| | | | |
|---|---|---|---|
| **Learner's Signature** | | **Date:** | |
| **Assessor's Signature** | | **Date:** | |

| **Activity 8 – Worksheet** |
|---|
| Complete the worksheet below. |
| Provide details of a crop protection application that you took part in during your practical learning. |
| **No model answer due to variation in circumstances.** |
| How was the process monitored by the foreman, team leader and / or farm manager? |
| **No model answer due to variation in circumstances.** |
| Did any problems occur during the application process? Explain in detail what occurred and why it occurred. |
| **No model answer due to variation in circumstances.** |
| If in the previous question you could think of no problems, write down at least one potential problem that could have occurred, and what can be done to make sure that it does not happen in the future. |
| **No model answer due to variation in circumstances.** |
| Write down a step-by-step procedure for workers on the farm to follow in order to report the progress of the application process verbally. |
| **No model answer due to variation in circumstances.** |
| Draw up a simple incident report form that workers can fill in to report problems or unusual occurrences in writing. |

**As per learner's practical experience or workplace procedures.**
**Example:**

# Incident Report

Date of Incident: _____

Reported by: _____

Reported to: _____

Parties Involved in Incident: _____

Details of Incident:

_____

Medical Attention Given: Yes / No / Not Required

Medical Report Handed in: Yes / No

**Activity 9 – Group Activity and Role-Play**

Divide the class into three groups and choose an emergency scenario. As a group, act out a small drama to demonstrate the situation to the other groups in the class. Write keynotes for yourself.

| ***Scenario 1*** | |
|---|---|
| What happened during the scenario? | **The spray machine attached to the tractor, tipped over and spilt 5,000 litres of herbicide mix into the dam.** |
| What caused the emergency to arise? | **The driver was reckless and drove too fast on a steep and eroded road.** |
| What kind of emergency occurred? | • **Chemical spills**<br>• **Environmental contamination** |
| Explain how the emergency was dealt with? | **The Department of Environmental Affairs and Tourism and the Department of Agriculture, Forestry and Fisheries were called to get a suitably qualified person to analyse the impact that this spill could have on the farm and on the surrounding vegetation. The irrigation dam had to be drained into tanker trucks by a professional company that deals with chemical spills and contamination.** |
| Was a medical doctor or a vet required to deal with the situation? | **No** |

| | |
|---|---|
| How was the supervisor informed? | **Verbally** |
| Did the supervisor contact a poison information centre? | **Yes** |
| Explain what type of incident report was completed. | **Reports to the Department of Environmental Affairs and Tourism Report to Department of Agriculture, Forestry and Fisheries** |

| ***Scenario 2*** | |
|---|---|
| What happened during the scenario? | **One of the farm workers' children managed to get into the poison store and accidentally drank a small amount of caustic soda.** |
| What caused the emergency to arise? | **The store was not locked and the caustic soda was not placed out of reach of small children** |
| What kind of emergency occurred? | • **Human poisoning** |
| Explain how the emergency was dealt with? | **The poison centre and paramedics were called immediately. A helicopter had to come and collect the child and he had to be taken to hospital immediately where he is still in a critical condition.** |
| Was a medical doctor or a vet required to deal with the situation? | **Yes, a medical doctor.** |
| How was the supervisor informed? | **Verbally** |
| Did the supervisor contact a poison information centre? | **Yes** |
| Explain what type of incident report was completed. | **Reports to supervisor, farm owner, Workmen's Compensation and the Police** |

| ***Scenario 3*** | |
|---|---|
| What happened during the scenario? | **The spray action took place at a time when there was high wind and lambs that were in the next camp became ill from poisoning.** |
| What caused the emergency to arise? | **The weather conditions were not correct to perform the spray action and the livestock was not moved to the correct place where they would be protected.** |
| What kind of emergency occurred? | • **Animal poisoning**<br>• **Environmental contamination** |
| Explain how the emergency was dealt with? | **The poison centre and the vet were called immediately.** |
| Was a medical doctor or a vet required to deal with the situation? | **Yes, a vet** |
| How was the supervisor informed? | **Verbally** |
| Did the supervisor contact a poison information centre? | **No, just the vet** |
| Explain what type of incident report was completed. | **Reports to supervisor, farm owner** |

| Marking Matrix and Assessor Report for Formative Assessment Activities<br>Formative Evidence Collection Summary for L2 Unit Standard 116125 | | | | | |
|---|---|---|---|---|---|
| | ***Action Required from Learner to Develop Competence*** | ***Competence Assessments*** | ***Standard for Activity*** | ***Allocation of Marks*** | ***Feedback to Learner and Comments on Evidence*** |
| ***Specific Outcome 1:*** **Implement a pre-application plan**<br><br>*Range:* Pre-application plan includes but is not limited to product, equipment, protective gear, emergency equipment, facilities and climatic conditions. | Attend classroom lesson, participate and ask questions | Activities in learner activity book were completed correctly | Activity answers must be at least 85% correct | As per model answer sheet | |
| ***Specific Outcome 2:*** **Mix correct pest control products at correct dose rate**<br><br>*Range:* Pest control products include but are not limited to crop, produce and animals. | Attend classroom lesson, participate and ask questions | Activities in learner activity book were completed correctly | Activity answers must be at least 85% correct | As per model answer sheet | |
| ***Specific Outcome 3:*** **Apply pest control product to produce / crop or farm animals** | Attend classroom lesson, participate and ask questions | Activities in learner activity book were completed correctly | Activity answers must be at least 85% correct | As per model answer sheet | |
| ***Specific Outcome 4:*** **Take the necessary safety and health precautions whilst applying pest control products**<br><br>*Range:* Including protecting self and co-workers, protecting non-targeted organisms, protecting the environment | Attend classroom lesson, participate and ask questions | Activities in learner activity book were completed correctly | Activity answers must be at least 85% correct | As per model answer sheet | |
| ***Specific Outcome 5:*** **Apply post-application procedures** | Attend classroom lesson, participate and ask questions | Activities in learner activity book were completed correctly | Activity answers must be at least 85% correct | As per model answer sheet | |

| Marking Matrix and Assessor Report for Formative Assessment Activities<br>Formative Evidence Collection Summary for L2 Unit Standard 116125 | | | | | |
|---|---|---|---|---|---|
| | ***Action Required from Learner to Develop Competence*** | ***Competence Assessments*** | ***Standard for Activity*** | ***Allocation of Marks*** | ***Feedback to Learner and Comments on Evidence*** |
| ***Specific Outcome 6:*** **Monitor and report on the process, problems and unusual occurrences to the supervisor**<br><br>*Range:* Report may be delivered verbally or in writing | Attend classroom lesson, participate and ask questions | Activities in learner activity book were completed correctly | Activity answers must be at least 85% correct | As per model answer sheet | |
| ***Specific Outcome 7:*** **Deal appropriately and effectively with emergencies**<br><br>*Range:* Emergencies include but are not limited to chemical spills, human and animal poisoning and environmental contamination | Attend classroom lesson, participate and ask questions | Activities in learner activity book were completed correctly | Activity answers must be at least 85% correct | As per model answer sheet | |
| ***US CCFO: Problem Solving*** | Attends all lessons, activities, practical and completes activities and workbook as per instructions | Attendance register and facilitator report | Learner must at least be present and no negative commentary about the learner should be made in the facilitator report. | N/a | |
| ***US CCFO: Organising*** | | | | | |
| ***US CCFO: Information*** | | | | | |
| ***US CCFO: Communication*** | | | | | |

| Assessment Feedback Form – Activity Workbook | | | |
|---|---|---|---|
| | **Comments / Remarks** | | |
| Feedback to learner on assessment | | | |
| Feedback from learner to assessor | | | |
| **Learner's Signature** | | **Date:** | |
| **Assessor's Signature** | | **Date:** | |

# Step 6

## Poster Design and Presentation

Before the summative task is undertaken, the learner must be reminded of what is expected from him / her in terms of summative and reflexive competence. Read and explain to the learner this section in the learner assessment guide. The learner and assessor must sign off this section to acknowledge that this step was completed. The format is as reflected in the assessment guide for learners. Please read it and familiarise yourself with its content.

The actual job description need not be in an advertisement format. The exercise is aimed at allowing learners to think through the role of a specific manager.

- Use the planning and questioning format below to help you collect evidence for foundational and embedded knowledge as prescribed by the outcomes of the unit standards.
- Provide the questions as listed to the learners as a guide.
- Ensure that you apply the exact same methodology for each learner in order to ensure that VACS principles are adhered to.
- The benchmark for learner competence is an 85% overall test score.
- Only a suitably qualified and registered assessor who is ALSO a subject matter expert in this specific field can mark this assessment tool for learner assessment.
- If no such a person can be found to assess the learner, then it is advised that a qualified assessor consults with the appropriate subject matter expert prior to the assessment in order to establish key points for competence and / or uses model answers as supplied by a subject matter expert to allocate marks. The subject matter expert should be consulted for any answers that the assessor might have queries on.
- Use a header in the following format for each test paper:

| | | | |
|---|---|---|---|
| **Unit Standard:** | 116125 | **NQF Level:** | 2 |
| **Learner Name** | | | |

| | |
|---|---|
| What plant protection products are required for my crop? | |
| When do these plant protection products have to be applied? | |
| What is the purpose of these plant protection products? | |
| At what dose must these plant protection products be mixed? | |
| What are the rules regarding the mixing of these plant protection products? | |
| What are the rules regarding the application of these plant protection products? | |
| What protective gear and clothing must be worn when mixing or applying these plant protection products? | |
| With what equipment must these plant protection products be applied? | |

| | |
|---|---|
| How must excess of the plant protection products be discarded of? | |
| How must empty containers of the plant protection products be discarded? | |
| How must equipment be cleaned after application of these chemicals? | |
| How are these plant protection products received? | |
| How are these plant protection products stored? | |
| What documentation has to be filled out regarding these plant protection products? | |

# Step 7

## Integrated Summative Assessment Tool

Two assessment tools are provided in this step, being:

1. Practical Assessment Tool
2. Attitudes and Attributes Assessment Tool

These assessment tools have been drafted in their entirety and follow below. It must be copied and completed for every learner in the same manner and according to the same procedure.

Learners must not be given these tools in preparation for summative assessment. This corresponding step in the Learner Assessment Guide is a direct reflection of these tools and is drafted in a format that is appropriate to the learner's level of language competence.

### 1. Practical Assessment Tool

- All the sections of this document must be completed and signed where appropriate by the learner and the assessor.
- The learner must be given appropriate feedback and told whether they were declared competent or not yet competent. The assessor must record the appropriate commentary and guide the learner with detailed action plans for areas where the learner is found not yet competent.
- In line with the policies and procedures, the assessor must offer learners an opportunity for feedback on the assessment as well as an opportunity to appeal against the declaration.
- Should learners be found not yet competent, a detailed action plan with specific commentary on development must be drafted together with the learner and the facilitator in order to develop the necessary competence. A date for re-assessment must be agreed upon with the learner.
- All the evidence must be signed and copied, if necessary, to be placed in the learner's portfolio of evidence.
- Use this checklist to help collect evidence of practical competence as prescribed by the specific outcomes of the unit standards.
- Ask the questions as listed in order to test foundational and reflexive competence relevant to the specific task.
- Ensure that the exact same methodology is applied for each learner in order to ensure that VACS principles are adhered to.
- The benchmark for learner competence in this tool is 85% in EVERY task.
- Only a suitably qualified and registered assessor who is ALSO a subject matter expert in this specific field can use this assessment tool for learner assessment.
- If no such a person can be found to assess the learner, then it is advised that a qualified assessor consults with the appropriate subject matter expert prior to the physical assessment in order to establish key points for observation. The subject matter expert must attend the assessment in order to judge competence of the learner.

## 2. Attitudes and Attributes Assessment Tool

- Use this rating scale to judge the learner's CCFO competence according to the unit standard.
- The learner's entire performance and all the stages of learning, as well as all gathered evidence must be considered for this section.
- It is advised that the assessor consult with facilitators, mentors, coaches and supervisors in order to ensure that an objective rating is allocated.
- A rating between 1 and 5 should be given, as follows:

| ***Rating*** | ***Description*** |
|---|---|
| 1 | No evidence can be found |
| 2 | The evidence found is weak and this is still a major development area for the learner |
| 3 | The evidence found meets the average expectation for a learner on this level |
| 4 | The evidence found is of a high quality and exceeds the average standard expected |
| 5 | The evidence found is outstanding and the learner attitudes and traits are very well developed |

- Learner must be given constructive feedback on each rating.
- Ensure that you apply the exact same methodology for each learner in order to ensure that VACS principles are adhered to.
- The benchmark for learner competence in this tool is 3:5 in EVERY CCFO.

At the end of this step, an assessment feedback form is provided which must be completed and signed by the assessor, learner and moderator, where applicable.

| Practical Assessment Tool | | | | |
|---|---|---|---|---|
| **Unit Standard:** | 116125 | | **NQF Level:** | 2 |
| **Learner Name:** | | | | |
| ***Tasks and Question*** | ***Criteria Checked For / Key Concepts Observed*** (to be completed as per the real contexts and examples used whilst in the field) | ***Learner Competent*** | ***Learner Not Yet competent and Recommended Revision*** | ***Assessor Comments*** |
| **1. Plan for the application of plant protection products** | | | | |
| 1.1. What product will be used? | Correct product is chosen<br><br>Correct product specification is chosen | | | |
| 1.2. How much of the product do you need? | Accurate weights/concentrations are measured off | | | |
| 1.3. Where is the product stored? | Product collected and stored in appropriate store<br><br>Product stored according to instructions/hazard status | | | |
| 1.4. Who issues the product? | Appropriate authority is identified<br><br>Appropriate supplier is identified | | | |
| 1.5. Who has to mix the product? | Responsibility is assigned to specific person with appropriate authority and training | | | |
| 1.6. What application equipment will be needed? | Correct equipment is chosen | | | |
| **2. Apply plant protection products.** | | | | |

| | | | | |
|---|---|---|---|---|
| 2.1. How must the application equipment be prepared for the application? | Correct cleaning and sanitising is performed<br><br>Seals/Valves are checked<br><br>Nozzles are checked<br><br>Valves are checked<br><br>Electrical/Motorised parts are checked | | | |
| 2.2. How must the product be mixed? | Instructions are followed<br><br>Correct weights/measurements/ volumes are done | | | |
| 2.3. At what time of day must the product be applied? | Specifications are followed | | | |
| 2.4. Can the product be applied when it is hot, when it is windy or when it has been raining? | Identify product instability/hazard if appropriate | | | |
| 2.5. Will too much or too little of the product damage the plant? | Too little: ineffective<br><br>Too much: possible crop death/damage | | | |
| **3. Work safely with plant protection products.** | | | | |
| 3.1. Can the product harm humans, animals, or the environment? | Yes<br>Hazards are identified | | | |

| | | | | |
|---|---|---|---|---|
| 3.2. How can you prevent harm to humans, animals, or the environment when working with the product? | Adhere to rules<br><br>Adhere to SOP<br><br>Wear safety clothing<br><br>Inform others of intended actions<br><br>Don't apply in windy conditions<br><br>Discard of excess as per instruction<br><br>Prevent access to agro-chemicals | | | |
| 3.3. What safety clothing must be worn when using the product? | Correct safety clothing is worn<br><br>Correct safety clothing is identified | | | |
| 3.4. How must the product be stored? | Stored according to SOP<br><br>Stored according to hazard risk<br><br>Stored according to product specification<br><br>Stored in correct store<br><br>Store room access restricted | | | |
| 3.5. How must the empty containers be discarded? | Discarded as per environmental regulations<br><br>Discarded as per manufacturer's instruction | | | |

## Attitudes and Attributes Assessment Tool

Use the following rating table in this assessment:

| ***Rating*** | ***Description*** |
|---|---|
| 1 | No evidence can be found |
| 2 | The evidence found is weak and this is still a major development area for the learner |
| 3 | The evidence found meets the average expectation for a learner on this level |
| 4 | The evidence found is of a high quality and exceeds the average standard expected |
| 5 | The evidence found is outstanding and the learner attitudes and traits are very well developed |

| ***CCFO Criteria*** | ***Rating*** |
|---|---|
| **Identifying** – The learner can identify problems and deficiencies correctly. | |
| **Organising** – The learner works in an organised and systematic way whilst performing all tasks and tests. | |
| **Communicating** – The learner is able to communicate his or her knowledge orally and in writing, in a way that shows what knowledge he or she has gained. | |
| **Collecting –** Learner can effectively gather information | |

| Assessment Feedback Form | | | |
|---|---|---|---|
| | **Comments / Remarks** | | |
| Feedback to learner on assessment and / or overall recommendations and action plan for competence | | | |
| Feedback from learner to assessor | | | |
| **Assessment Judgement** | You have been found:<br>❍ Competent<br>❍ Not yet competent<br>in this unit standard | Actions to follow:<br>❍ Assessor report to ETQA<br>❍ Learner results and attendance certification issued | |
| **Learner's Signature** | | **Date:** | |
| **Assessor's Signature** | | **Date:** | |
| **Moderator's Signature** | | **Date:** | |

# Step 8

## Re-Assessment Procedures

- Note that only outcomes on which the learner was found not yet competent must be re-assessed.
- The same procedures in steps 6 and 7 are repeated.
- The tool must be adapted at discretion of the assessor. Best practice is not to present the exact same format and questions if possible.
- Use your expertise and judgement to ensure that the method of re-assessment remains integrated and relevant to the expected outcomes.

# Step 9

## Documentation

The following documentation is addressed in this step:

1. Learner and assessor information reports;
2. Assessor report and summative evidence collection summary;
3. Learner assessment re-actionnaire;
4. Assessor's assessment review and improvement document;
5. Assessment appeal form

**1. Learner and Assessor Information Forms**

The learner information form is in the assessment guide for learners. The assessor information form follows. These forms must be completed for each individual learner and placed in the learner's portfolio of evidence.

**2. Assessor Report and Summative Evidence Collection Summary**

This report follows after the information report. Use it to summarise the findings during assessment. Please complete the copy of this report that is in the learner assessment guide.

**3. Learner Assessment Re-Actionnaire**

A pro-forma for the learner assessment re-actionnaire is included in the learner assessment guide. Ask the learner to complete this form and sign it.

**4. Assessor's Assessment Review and Improvement Document**

The assessor is expected to complete the assessor review of the assessment process, using the pro-forma document of which an example follows. Please complete the copy of the document in the learner assessment guide. This document must be discussed with the learner and any learner commentary should be recorded.

**5. Assessment Appeal Form**

The assessment appeal form is also provided in the learner assessment guide. Assist the learner to complete the document if necessary.

The learner must be requested to sign-off all reports and documents before they are placed in the portfolio of evidence.

| Assessor Information Form | | | | |
|---|---|---|---|---|
| **Unit Standard** | 116125 | | | |
| **Program Date(s)** | | | | |
| **Surname** | | | | |
| **First Name** | | | | |
| **Company Name** | | | | |
| **Job / Role Title** | | | | |
| **Home Language** | | | | |
| **Gender** | Male | | Female | |
| **Race** | African | Coloured | Indian/Asian | White |
| **Employment** | Permanent | | Non-permanent | |
| **Disabled** | Yes | | No | |
| **Date of Birth** | | | | |
| **ID Number** | | | | |
| **Contact Telephone Numbers** | | | | |
| **Email Address** | | | | |
| **Postal Address** | | | | |

| Assessor Report and Summative Evidence Collection Summary for Unit Standard 116125 – Level 2 | | | | | |
|---|---|---|---|---|---|
| ***Description*** | ***Evidence Gathered*** | | ***Benchmark*** | ***Competent / Not yet Competent*** | ***Feedback and Comments*** |
| | **Foundational and Embedded Knowledge** | **Practical Skills, Underpinning Knowledge and Reflexive Competence** | | | |
| ***Specific Outcome 1:*** **Implement a pre-application plan**<br><br>*Range:* Pre-application plan includes but is not limited to product, equipment, protective gear, emergency equipment, facilities and climatic conditions. | Formative workbook activities<br>Practical Questionnaire<br>Summative Poster Design | Formative workbook activities<br>Practical Questionnaire<br>Summative Poster Design | 85% competence in all areas | | |
| ***Specific Outcome 2:*** **Mix correct pest control products at correct dose rate**<br><br>*Range:* Pest control products include but are not limited to crop, produce and animals. | Formative workbook activities<br>Practical Questionnaire<br>Summative Poster Design | Formative workbook activities<br>Practical Questionnaire<br>Summative Poster Design | 85% competence in all areas | | |
| ***Specific Outcome 3:*** **Apply pest control product to produce / crop or farm animals** | Formative workbook activities<br>Practical Questionnaire<br>Summative Poster Design | Formative workbook activities<br>Practical Questionnaire<br>Summative Poster Design | 85% competence in all areas | | |
| ***Specific Outcome 4:*** **Take the necessary safety and health precautions whilst applying pest control products**<br><br>*Range:* Including protecting self and co-workers, protecting non-targeted organisms, protecting the environment | Formative workbook activities<br>Practical Questionnaire<br>Summative Poster Design | Formative workbook activities<br>Practical Questionnaire<br>Summative Poster Design | 85% competence in all areas | | |
| ***Specific Outcome 5:*** **Apply post-application procedures** | Formative workbook activities<br>Practical Questionnaire<br>Summative Poster Design | Formative workbook activities<br>Practical Questionnaire<br>Summative Poster Design | 85% competence in all areas | | |

| Assessor Report and Summative Evidence Collection Summary for Unit Standard 116125 – Level 2 | | | | | |
|---|---|---|---|---|---|
| ***Description*** | ***Evidence Gathered*** | | ***Benchmark*** | ***Competent / Not yet Competent*** | ***Feedback and Comments*** |
| | **Foundational and Embedded Knowledge** | **Practical Skills, Underpinning Knowledge and Reflexive Competence** | | | |
| ***Specific Outcome 6:*** **Monitor and report on the process, problems and unusual occurrences to the supervisor**<br><br>*Range:* Report may be delivered verbally or in writing | Formative workbook activities<br>Practical Questionnaire<br>Summative Poster Design | Formative workbook activities<br>Practical Questionnaire<br>Summative Poster Design | 85% competence in all areas | | |
| ***Specific Outcome 7:*** **Deal appropriately and effectively with emergencies**<br><br>*Range:* Emergencies include but are not limited to chemical spills, human and animal poisoning and environmental contamination | Formative workbook activities<br>Practical Questionnaire<br>Summative Poster Design | Formative workbook activities<br>Practical Questionnaire<br>Summative Poster Design | 85% competence in all areas | | |
| ***Embedded Knowledge:***<br><br>The learner is able to demonstrate a basic knowledge of:<br>1. Interpretation of pictograms, colour coding and symbols<br>2. Legal implications of misuse/ abuse i.e. off-label use<br>3. Potential hazards associated with agrochemicals<br>4. Cleaning and maintenance of equipment<br>5. General symptoms of poisoning<br>6. Impact of product on the environment, humans and other organisms<br>7. Basic storage principles and requirements<br>8. Principles and methods of mixing | Formative workbook activities<br><br>Practical Questionnaire<br><br>Summative Poster Design | Formative workbook activities<br><br>Practical Questionnaire<br><br>Summative Poster Design | Overall minimum test score of 85% | | |

| Assessor Report and Summative Evidence Collection Summary for Unit Standard 116125 – Level 2 | | | | | |
|---|---|---|---|---|---|
| ***Description*** | ***Evidence Gathered*** | | ***Benchmark*** | ***Competent / Not yet Competent*** | ***Feedback and Comments*** |
| | **Foundational and Embedded Knowledge** | **Practical Skills, Underpinning Knowledge and Reflexive Competence** | | | |
| 9. Empty container and waste disposal<br>10. Emergency procedures<br>11. Legislation and Codes of Practice<br>12. First aid<br>13. Hygiene<br>14. Contamination | | | | | |
| **Unit Standard CCFOs:**<br>• Identifying<br>• Organising<br>• Collecting<br>• Communication | N/a | Rating Scale | Minimum rating of 3:5 in each criteria or overall average of 3:5 | | |

| Assessor's Assessment Review and Improvement Document | |
|---|---|
| **Issues** | **Comments** |
| Did the assessment go according to plan? | |
| Did anything unexpected happen? | |
| Were you pleased with the assessment decision; i.e. was it what you expected? | |
| How could the process have been carried out more efficiently? | |
| How could the process of assessing the knowledge be improved? | |
| How could the Performance Observation checklist be improved? | |
| Was the evidence you gathered sufficient to make a judgment of competence? | |
| Was the way you obtained feedback from the learner effective? | |
| Were you pleased with the way you communicated your decision to the learner? If not, how could this have been improved? | |
| How would you improve the assessment process? | |

Any learner has the right of appeal against any not-yet-competent decision by the assessor. If the learner wishes to appeal, please assist him / her to complete the form below.

| **Appeal Form** | | | |
|---|---|---|---|
| I hereby appeal against the outcome of my assessment. | | | |
| **Date:** | | | |
| **Learner's Name:** | | | |
| **Assessors Name:** | | | |
| **Organisation:** | | | |
| **Assessment Details:**<br><br>Criteria, role, standards Used, etc. | | | |
| **Issue to be Reviewed:** | | | |
| **Learner's Signature** | | **Date:** | |
| **Assessor's Signature** | | **Date:** | |

# Step 10

## Administration and Completion of Portfolio of Evidence

All the documents or copies thereof, as prescribed previously, must be kept on file as part of the learner portfolio of evidence.

Learner's portfolio of evidence must be readily available for internal and external moderation and verification by the appropriate practitioners, until after the verification process has taken place. The portfolio of evidence may then be kept or returned to the learner according to the service provider's policy.

The prescribed learner results form should be submitted to the ETQA or the National Learner Database as per the SETA procedure.