

City & Guilds Level 2 Award In The Safe Sub Surface Application of Liquid Pesticides (PA13) (0216-61)

Version 1.1 (February 2025)

Assessment Pack – Candidate Version

Version and date	Change detail	Section
1.0 February 2024	First version	All
1.1 February 2025	Updated Unit Numbers Formatting	Throughout

Contents

Introduction	4
Practical observation descriptor table	6
Unit 275 Operating sub surface equipment for application of pesticides	6
Appendix 1 Practical table	12
Unit 275 Operating sub surface equipment for application of pesticides	12
Appendix 2 Sources of general information	13

Introduction

This assessment relates to the unit in the Qualification handbook. The assessment can be achieved at pass only. If any task is not yet met the candidate is unsuccessful.

This assessment is for the following units and learning outcomes:

Unit 275 Operating sub surface equipment for application of pesticides covering the following learning outcomes:

1. Know the legislative and safety regulations relating to application equipment
2. Be able to assess the environmental factors relating to mixing and application
3. Be able to read and interpret product information
4. Be able to prepare and calibrate the applicator
5. Be able to operate the application equipment
6. Know how to carry out post-operational procedures

General guidance on the requirements for assessment can be found in the Assessor Guidance General guidance on the requirements for assessment can be found in the Assessor Guidance document available on the City & Guilds web site **www.nptc.org.uk**

The assessor must complete the Practical Table mark sheet for each candidate which should be kept by the assessor for a minimum period of twelve months.

Assessment Time

The expected assessment time for this qualification is 1.5 – 3 hours.

Summary of responsibilities in the assessment process

Centre responsibilities	Candidate responsibilities	Assessor responsibilities
A suitable site is made available for the assessment to take place		Ensuring that the site provided is suitable for the assessment to take place
Machinery, equipment and materials are available to enable assessment of all the activities to take place	To be familiar with the machinery/equipment being used for the assessment	Ensuring that the machinery, equipment and materials provided satisfy the assessment requirements
	To bring appropriate Personal Protective Equipment (PPE) to the assessment	Ensuring that candidate's PPE complies with the requirements of the assessment
	To bring relevant training materials (including calibration sheet if applicable)	
	To bring a product label appropriate for the assessment	To ensure that the product label is appropriate for the assessment (or provide a suitable alternative)

This is not an open book assessment, however additional technical information may be sought from the relevant manufacturer's operator manuals or any other appropriate training or safety publication.

Practical observation descriptor table

Unit 275 Operating sub surface equipment for application of pesticides

Activity number and description from check list		Assessment criteria
1.1	Describe the legal requirements relating to applying pesticides using sub surface equipment	<p>May include:</p> <ul style="list-style-type: none"> all required guards are in place and equipment complies with legal requirements comply with all relevant road traffic regulations when operating or transporting on the public highway comply with The Plant Protection Products (Sustainable Use) Regulations 2012 the operator must hold the appropriate certification for the equipment they are using
1.2	Describe how to apply pesticides safely using sub surface equipment following industry best practice	<p>Operator safety regulations may include:</p> <ul style="list-style-type: none"> comply with Pesticide Codes of Practice adopt industry best practice be aware of any safety implications imposed by COSHH/Risk Assessment and comply with the requirements <p>sealed cab:</p> <ul style="list-style-type: none"> fit carbon filter use of in-cab controls ensure ventilation system is functional close all windows contaminated PPE stored in external locker awareness of the siting of pressurized components within confines of cab <p>open cab/canopy/platform:</p> <ul style="list-style-type: none"> use of appropriate PPE awareness of the siting of pressurized components within confines of cab/canopy/platform <p>Checks to protect self from physical danger during operation:</p> <ul style="list-style-type: none"> compatibility of prime mover and applicator front weights wheel track width correct tyre pressures condition of tyres brake function <p>Safe practice when driving on uneven/sloping terrain:</p> <ul style="list-style-type: none"> assess conditions

		<ul style="list-style-type: none"> • select four wheel drive • appropriate speed • correct gear selection • effect of changing load on stability • use of weights to stabilise prime mover • correct turning procedure • keep centre of gravity as low as possible <p>Consideration for safe driving on a public highway:</p> <ul style="list-style-type: none"> • independent brakes coupled together • travelling at high speed makes vehicle unstable
2.1	Identify risks to the environment	<p>May include:</p> <ul style="list-style-type: none"> • escaping vapour (gas) • ground conditions • water courses • environmental margins/strips/areas • drains • boreholes • wildlife • non-targets • sensitive crops/areas • housing • public access • other risks particular to the site
2.2	Explain how to minimise risks to the environment	<p>May include:</p> <ul style="list-style-type: none"> • soil suitably sealed • use an appropriate pesticide (minimal environmental impact) • careful timing of application • check and maintain application rate • observe buffer zones • erect warning signs • inform neighbours
3.1 - 3.2	Read product information Interpret product information	<p>May include the following:</p> <ul style="list-style-type: none"> • product name • active substance(s) (ingredient(s)) <p>Important information:</p> <ul style="list-style-type: none"> • field of use • crop/target • maximum individual dose • maximum total dose • maximum number of treatments • specific product precautions/warnings • operator protection • environmental protection • restrictions on use <p>Crop specific information:</p> <ul style="list-style-type: none"> • crop/target • dose rate • timing • depth of application

		Mixing (if applicable) and application: <ul style="list-style-type: none"> • filling • additional label information
4.1	Carry out pre use checks to the prime mover	May include: <ul style="list-style-type: none"> • guards in place and in good condition • visual inspection of the wheels and tyres • tyre pressures • fuel level adequate • engine oil level is within acceptable limits • hydraulic oil level is within acceptable limits (if accessible) • transmission oil level is within acceptable limits (if accessible) • coolant level is adequate • engine air filter is clean
4.2	Identify applicator components and controls	May include all/any of the following: <ul style="list-style-type: none"> • main tank • clean water tank • hand wash tank • pump • pulsation damper • filling control and devices • pressure adjustment control • pressure gauge • on/off control • filters • tank drain • tines/shears • nozzle • soil sealing roller • plastic film dispenser • other components/controls specific to the applicator
4.3	Carry out pre-use and operational checks to the applicator	Security of attachment: <ul style="list-style-type: none"> • fasteners tight • straps inspected and adjusted if necessary • linkage secure • sideways movement restricted • pesticide container secured Possible mechanical defects: <ul style="list-style-type: none"> • seized, worn or damaged controls/components • electrical connections Applicator lubrication: <ul style="list-style-type: none"> • identification of lubrication points • visual inspection of lubrication points • visual inspection of levels Clean/replace a nozzle <ul style="list-style-type: none"> • check for defects and cleanliness • clean if required • replace if damaged or worn

		<p>Condition of soil engaging components</p> <ul style="list-style-type: none"> • tines/shares serviceable • securely attached • correct spacing <p>Condition of soil sealing mechanism</p> <ul style="list-style-type: none"> • securely attached • pressure adjustment • roller speed adjustment • film dispenser(if fitted) <p>Use of control panel may include:</p> <ul style="list-style-type: none"> • functions of control panel • recognition of malfunctions before and during operation • check accuracy of calibration • switch to manual/test mode where applicable <p>Action in event of control panel failing:</p> <ul style="list-style-type: none"> • stop pesticide application • manual operation of controls if possible <p>Part fill applicator to include:</p> <ul style="list-style-type: none"> • suitable site selected • fill by usual on-site method and following approved procedures • correct use of clean water supply <p>Check for leaks:</p> <ul style="list-style-type: none"> • visual check of nozzle(s) for absence of blockages • replace defective nozzle(s) • lids and seals • pipe work and connections • control valves • filters • pressure gauge
4.4	Calibrate the applicator and record relevant data	<p>Calibration may include the following:</p> <ul style="list-style-type: none"> • suitable forward speed for ground conditions • appropriate gear selected and engine speed established (if applicable) • accurate measurement of distance • accurate measurement of time taken to cover distance • correct use of formula to establish forward speed <p>Output/volume rate</p> <ul style="list-style-type: none"> • correct use of formula <p>Set flow rate</p> <ul style="list-style-type: none"> • flow rate checked using a suitable container • compare with target output • adjust flow rate as required • or any other acceptable method <p>Calibration data</p> <ul style="list-style-type: none"> • registration number of vehicle • tyre size and pressure

		<ul style="list-style-type: none"> • gear selected • engine speed • vehicle forward speed • application volume • flow rate setting
4.5	Calculate the quantities of pesticide and water required, if applicable, for a specified area	<p>To include:</p> <ul style="list-style-type: none"> • amount of pesticide required for specified area
5.1	Measure the required quantities and add to the applicator or attach pesticide container	<p>To include:</p> <ul style="list-style-type: none"> • correct selection and use of PPE/RPE (as required by the product label COSHH/Risk Assessment) • suitable site selected • sufficient pesticide for task • use of filling device (if fitted) • avoidance of spillage or • pesticide container securely attached
5.2	Demonstrate safe and accurate application procedures	<p>Methods to achieve accurate application</p> <p>Marking out the site may include the following</p> <ul style="list-style-type: none"> • crop rows • marker poles • use of GPS <p>Refilling applicator part way through application</p> <ul style="list-style-type: none"> • avoid contact with contaminated crop/target • mark the spot at which the applicator/container emptied • refill applicator/replace container • continue application by accurately matching at the appropriate point <p>Procedure when nozzle becomes blocked during an application</p> <ul style="list-style-type: none"> • identify blockage • select and use appropriate PPE/RPE • care not to walk in contaminated area • clean or replace nozzle as appropriate <p>Demonstrate safe and accurate application procedures to include:</p> <ul style="list-style-type: none"> • ensure application depth is correct • operate controls to start and finish applying accurately at the beginning and end of each bout • correct forward speed maintained • accurate matching of bouts / use of driving aids • coping with obstacles • all of specified area treated, minimising overlaps and misses • awareness of changes in weather conditions and appropriate action taken(if applicable)

5.3	Carry out all activities protecting human health and the environment	<p>To include:</p> <ul style="list-style-type: none"> • prevention of personal injury and contamination through correct selection and use of PPE/RPE (as required by the product label and/or COSHH/Risk Assessment) • prevention of public/bystander contamination • safe filling procedure • avoidance of off-target application • avoidance of overdosing crop/target
5.4	Complete a treatment record	<p>Completion of the treatment record must be:</p> <ul style="list-style-type: none"> • accurate • legible (if handwritten)
6.1	Explain how to manage surplus pesticide and dispose of waste material	<p>Surplus concentrate pesticide:</p> <ul style="list-style-type: none"> • return to temporary mobile store • return to fixed store <p>Containers:</p> <ul style="list-style-type: none"> • placed in secure storage until disposal • returned to supplier • collected by licensed waste disposal contractor <p>Packaging:</p> <ul style="list-style-type: none"> • thoroughly emptied • placed in secure storage until disposal • collected by licensed waste disposal contractor
6.2	Explain how to clean and decontaminate the applicator	<p>May include:</p> <ul style="list-style-type: none"> • select and use appropriate PPE • appropriate site • thorough washing with water and suitable cleaning agent (if recommended/required) • internal and external surfaces • use of in-built wash systems if provided • care to ensure contamination 'hot-spots' are clean • thorough flushing of systems • safe disposal of contaminated washings • when cleaning should take place • safe procedures followed
6.3	Describe the storage requirements for the applicator	<p>May include:</p> <ul style="list-style-type: none"> • ensure the applicator is clean and dry • inspect for wear and damage • replace any worn or damaged parts • controls left in appropriate positions • frost protection measures implemented • lubricate as required • store undercover and out of direct sunlight • store in a secure area

Appendix 1 Practical table

Unit 275 Operating sub surface equipment for application of pesticides

All criteria must be achieved.

Activity number and description	Achieved
1.1 Describe the legal requirements relating to applying pesticides using sub surface equipment	
1.2 Describe how to apply pesticides safely using sub surface equipment following industry best practice	
2.1 Identify risks to the environment	
2.2 Explain how to minimise risks to the environment	
3.1 Read product information	
3.2 Interpret product information	
4.1 Carry out pre use checks to the prime mover	
4.2 Identify applicator components and controls	
4.3 Carry out pre-use and operational checks to the applicator	
4.4 Calibrate the applicator and record relevant data	
4.5 Calculate the quantities of pesticide and water required, if applicable, for a specified area	
5.1 Measure the required quantities and add to the applicator or attach pesticide container	
5.2 Demonstrate safe and accurate application procedures	
5.3 Carry out all activities protecting human health and the environment	
5.4 Complete a treatment record	
6.1 Explain how to manage surplus pesticide and dispose of waste material	
6.2 Explain how to clean and decontaminate the applicator	
6.3 Describe the storage requirements for the applicator	

Appendix 2 Sources of general information

The following documents contain essential information for centres delivering City & Guilds qualifications. To download the documents and to find other useful documents, go to **www.cityandguilds.com** or click on the links below:

Centre handbook: quality assurance standards

This document is for all approved centres and provides guidance to support their delivery of our qualifications. It includes information on

- Centre quality assurance criteria and monitoring activities
- Administration and assessment systems
- Centre-facing support teams at City & Guilds / ILM
- Centre quality assurance roles and responsibilities.

The Centre Handbook should be used to ensure compliance with the terms and conditions of the Centre Contract.

Centre assessment: quality assurance standards

Approved centres must have effective quality assurance systems to ensure optimum delivery and assessment of qualifications. Quality assurance includes initial centre approval, qualification approval and the centre's own internal procedures for monitoring quality. Centres are responsible for internal quality assurance and City & Guilds is responsible for external quality assurance. All external quality assurance processes reflect the minimum requirements for verified and moderated assessments, as detailed in the Centre Assessment Standards Scrutiny (CASS), section H2 of Ofqual's General Conditions. For more information on both CASS and City & Guilds Quality Assurance processes visit: the **What is CASS?** and **Quality Assurance Standards** documents on the City & Guilds website.

This document sets out the minimum common quality assurance requirements for our regulated and non-regulated qualifications that feature centre assessed components. Specific guidance will also be included in relevant qualification handbooks and/or assessment documentation.

It incorporates our expectations for centre internal quality assurance and the external quality assurance methods we use to ensure that assessment standards are met and upheld. It also details the range of sanctions that may be put in place when centres do not comply with our requirements, or actions that will be taken to align centre marking/assessment to required standards. Additionally, it provides detailed guidance on the secure and valid administration of centre-assessments.

Access arrangements: When and how applications need to be made to City & Guilds

provides full details of the arrangements that may be made to facilitate access to assessments and qualifications for candidates who are eligible for adjustments in assessment.

The **centre document library** also contains useful information on such things as:

- conducting examinations
- registering learners

- appeals and malpractice.

Useful contacts

Please visit the Contact Us section of the City & Guilds website, **Contact us**

City & Guilds

For over 140 years, we have worked with people, organisations and economies to help them identify and develop the skills they need to thrive. We understand the life-changing link between skills development, social mobility, prosperity and success. Everything we do is focused on developing and delivering high-quality training, qualifications, assessments and credentials that lead to jobs and meet the changing needs of industry.

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