

City & Guilds Level 2 Award in the Safe Application of Pesticides Using Boat Mounted Equipment (PA5) (0216-77)

Version 1.0 (January 2026)

Qualification Handbook

Candidates are **not** permitted to refer to this document during the practical observation and oral questioning.

Qualification at a glance

Subject area	Pesticides and Pest Control
City & Guilds number	0216-77
Age group approved	16+
Entry requirements	Learners must have achieved the Principles of Safe Handling and Application of Pesticides (PA1) (or equivalent) before being assessed for this qualification
Assessment	This is an independently assessed qualification. To gain this qualification, candidates must successfully achieve the following: one to one practical observation with oral questioning.
Grading	Pass/Fail
Approvals	Full approval required
Support materials	Qualification handbook Practical assessment guidance (available via the Assessor secure area of www.nptc.org.uk)
Registration and certification	Consult Walled Garden for last dates

Title and level	City & Guilds qualification number	Regulatory reference number	GLH	TQT
City & Guilds Level 2 Award in the Safe Application of Pesticides Using Boat Mounted Equipment (PA5)	0216-77	610/6551/1	54	60

Version and date	Change detail	Section
1.0 January 2026	Initial version	All

Contents

Qualification at a glance	2
1 Introduction	5
Structure	6
Total Qualification Time (TQT)	7
2 Centre requirements	8
Approval	8
Resource requirements	8
Quality assurance	10
Learner entry requirements	10
Age restrictions	10
Access arrangements, reasonable adjustments and special consideration	10
3 Delivering the qualification	12
Initial assessment and induction	12
Inclusion and diversity	12
Sustainability	12
Support materials	13
4 Assessment	14
Assessment of the qualification	14
Assessment strategy	15
Time constraints	15
Summary of responsibilities in preparing for the assessment process	15
5 Units	16
Structure of the units	16
Guidance for delivery of the units	16
Unit 244 Operating boat mounted sprayers fitted with hydraulic nozzles/rotary atomisers for applying pesticides to water (PA5A)	17
Unit 245 Operating boat mounted granular applicators for applying pesticides to water (PA5B)	24
Unit 246 Operating boat mounted applicators for applying pesticides to water (PA5P)	31
Supporting information	38
Appendix 1 Sources of general information	40

1 Introduction

This document tells you what you need to do to deliver the qualification.

Area	Description
Who is the qualification for?	The term “pesticides” is defined as any substance, preparation or organism that is prepared for or used to control any pest. The term “pesticide” is used to cover pesticides and Plant Protection Products (PPPs). This qualification is for those individuals whose job involves applying professional pesticide products. It is a legal requirement under the Plant Protection Products (Sustainable Use) Regulations (2012) to hold an approved qualification. This qualification is designed specifically for those who wish to apply pesticides using boat mounted equipment.
What does the qualification cover?	This qualification covers: • understanding the legislative, regulatory and Codes of Practice (CoP) requirements relating to applicator use • reading and interpreting information on a product label • assessing the environmental risks relating to the application site • preparing and calibrating the applicator • operating the applicator • knowing how to carry out post-operational procedures
What opportunities for progression are there?	This qualification will support progression into/sustainment in employment where applying pesticides using boat mounted equipment is part of the role. This qualification will also support progression into further learning in pesticides and pest control. Recommended progression onto 0216-87 City & Guilds Level 3 Award in Responsible Pesticide Management (RA-RPM) is also available. City & Guilds offer a range of refreshers in pesticides and pest control. Under the Provision and Use of Work Equipment Regulations (PUWER) it is recommended that individuals have a refresher every 2–5 years.

Each refresher covers the appropriate practical skills required to meet legislation, industry technical standards and industry good practice.

The refresher encourages looking forward and identifying opportunities to learn something new, refresh existing knowledge, improve skills, and keep up to date with the latest developments in a profession or industry.

Who did we develop the qualification with?	Developed with City & Guilds NPTC stakeholders, associates and industry representatives. Compliance with the requirements of the Health and Safety Executive, Chemical Regulation Division, Voluntary Initiative, Department for Environment, Food and Rural Affairs (DEFRA), and the relevant Environmental Agency.
Is it part of an apprenticeship framework or initiative?	No

Structure

To achieve the City & Guilds Level 2 Award in the Safe Application of Pesticides Using Boat Mounted Equipment (boat mounted sprayers fitted with hydraulic nozzles/rotary atomisers for applying pesticides to water) (PA5A) (0216-77), learners must achieve:

City & Guilds unit number	Unit title	GLH
Mandatory unit:		
Learners must achieve the following mandatory units.		
Unit 244	Operating boat mounted sprayers fitted with hydraulic nozzles/rotary atomisers for applying pesticides to water	54

To achieve the City & Guilds Level 2 Award in the Safe Application of Pesticides Using Boat Mounted Equipment (boat mounted granular applicators for applying pesticides to water) (PA5B) (0216-77), learners must achieve:

City & Guilds unit number	Unit title	GLH
Mandatory unit:		
Learners must achieve the following mandatory units.		
Unit 245	Operating boat mounted granular applicators for applying pesticides to water	54

To achieve the City & Guilds Level 2 Award in the Safe Application of Pesticides Using Boat Mounted Equipment (boat mounted applicators for applying pesticides to water) (PA5P) (0216-77), learners must achieve:

City & Guilds unit number	Unit title	GLH
---------------------------	------------	-----

Mandatory unit:

Learners **must** achieve the following mandatory units.

Unit 246	Operating boat mounted applicators for applying pesticides to water	54
----------	---	----

Total Qualification Time (TQT)

TQT is the number of notional hours which represents an estimate of the total amount of time that could reasonably be expected for a learner to demonstrate the achievement of the level of attainment necessary for the award of a qualification.

TQT consists of the following two elements:

- the number of hours that an awarding organisation has assigned to a qualification for guided learning
- an estimate of the number of hours a learner will reasonably be likely to spend in preparation, study or any other form of participation in education or training, including assessment, which takes place as directed by – but, unlike guided learning, not under the immediate guidance or supervision of – a lecturer, supervisor, tutor or other appropriate provider of education or training.

Title and level	GLH	TQT
City & Guilds Level 2 Award in the Safe Application of Pesticides Using Boat Mounted Equipment (PA5) (0216-77)	54	60

2 Centre requirements

Approval

Full approval

To offer this qualification, centres will need to gain both centre and qualification approval. Please refer to the document **Centre Approval Process: Quality Assurance Standards** for further information.

Centre staff should familiarise themselves with the structure, content and assessment requirements of the qualification before designing a course programme.

Resource requirements

Centres

The learner must be registered through the City & Guilds approved Assessment Centre for this qualification **prior** to the assessment.

Centre Staffing

Staff delivering these qualifications must be able to demonstrate that they meet the following occupational expertise requirements. They must have:

Technical competence

- be occupationally competent or possess technical expertise equivalent to the level of training being delivered.
- experience should reflect current industry standards and practice.

Professional experience

- must have current and relevant experience in the specific subject area being delivered and assessed.

Training delivery

- proven track record of delivering training.

Assessors

Assessors must be approved Certificate of Competence (CoC) City & Guilds NPTC Assessors and **must be independent and cannot have been involved with the training of the candidate.**

Assessors must use the practical assessment guidance which is available via the assessor secure area of **www.nptc.org.uk**.

Assessors must:

- show competence and provide evidence of industry expertise in the qualification(s) they wish to assess
- hold the qualification as a candidate and have been technically evaluated as an assessor
- be up to date with their verification and relevant first aid training.

Demonstrating continuing technically relevant Continuing Professional Development (CPD) with these requirements is a pre-requisite for assessors to remain on the list of approved assessors.

Continuing Professional Development (CPD)

Centres are expected to support their staff in ensuring that their knowledge of the occupational area remains current and of best practice in delivery, mentoring, training, assessment and quality assurance, and that it takes account of any national or legislative developments.

Physical resources

Centres must be able to demonstrate that they have access to the physical resources required to deliver this qualification and its assessments:

Site requirements:

- a dry location for questioning and documentation completion
- a suitable area for calibration of the applicator
- a site for calculating and measuring pesticide and water and adding to the applicator
- a specified area for application.

Equipment/Machinery:

Any equipment/machinery used for the delivery or assessment must comply with current legal requirements.

- boat mounted applicator
- Personal Protective Equipment (PPE)/Respiratory Protective Equipment (RPE)
- Personal Flotation Device (PFD)
- measuring equipment
- stopwatch
- compass and anemometer
- measuring jug(s)
- calculator
- bout markers
- drip tray
- spillage kit.

Documentation:

- product label and/or appropriate EAMU provided by the candidate
- calibration aids
- application record provided by the candidate
- manufacturer's operator's handbook/literature
- nozzle chart(s).

Consumables:

- first aid kit
- fuel and/or fully charged battery
- water supply
- simulated pesticide product or actual product may be used if required.

Additional information:

Additional information may be sought from the relevant manufacturer's operator's manual, product information or database, nozzle chart(s) or any other publication by the government or a government agency.

Quality assurance

Approved centres must have effective quality assurance systems to ensure optimal 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.

Standards and rigorous quality assurance are maintained by the use of:

- internal quality assurance
- City & Guilds external quality assurance.

In order to carry out the quality assurance role, Internal Quality Assurers (IQAs) must:

- have appropriate teaching and vocational knowledge and expertise
- have experience in quality management/internal quality assurance
- hold or be working towards an appropriate teaching/training/assessing qualification
- be familiar with the occupation and technical content covered within the qualification.

External quality assurance for the qualification will be provided by City & Guilds. External Quality Assurers (EQAs) are appointed by City & Guilds to approve centres, and to monitor the assessment and internal quality assurance carried out by centres. External quality assurance is carried out to ensure that assessment is valid and reliable, and that there is good assessment practice in centres.

The role of the EQA is to:

- provide advice and support to centre staff
- ensure the quality and consistency of assessments and marking/grading within and between centres by the use of systematic sampling
- provide feedback to centres and to City & Guilds.

Learner entry requirements

Learners must have achieved the Principles of Safe Handling and Application of Pesticides (PA1) (or equivalent) before being assessed for this qualification

Centres must ensure that learners have the potential and opportunity to gain the qualification successfully.

Age restrictions

This qualification is approved for learners aged 16 or above.

Access arrangements, reasonable adjustments and special consideration

City & Guilds has considered the design of this qualification and its assessments in order to best support accessibility and inclusion for all learners. City & Guilds understands however

that individuals have diverse learning needs and may require reasonable adjustments to fully participate. Reasonable adjustments, such as additional time or alternative formats, may be provided to accommodate learners with disabilities and support fair access to assessment.

Access arrangements are adjustments that allow candidates with disabilities, special educational needs, and temporary injuries to access the assessment and demonstrate their skills and knowledge without changing the demands of the assessment. These arrangements must be made before assessment takes place.

The Equality Act 2010 requires City & Guilds to make reasonable adjustments where a disabled person would be at a substantial disadvantage in undertaking an assessment.

It is the responsibility of the centre to ensure at the start of a programme of learning that candidates will be able to access the requirements of the qualification.

Special consideration is a post examination adjustment to a candidate's mark or grade to reflect temporary injury, illness or other indisposition at the time of the examination/assessment.

Please refer to the documents 'Joint Council for Qualifications (JCQ) Access Arrangements and Reasonable Adjustments', 'JCQ – A Guide to the special consideration process' and 'Access arrangements – When and how applications need to be made to City & Guilds' for more information. All of these are available on the **City & Guilds website**

3 Delivering the qualification

Initial assessment and induction

An initial assessment of each learner should be made before the start of their programme to identify:

- if the learner has any specific training needs
- any support and guidance they may need when working towards their qualification
- any units they have already completed or credit they have accumulated which is relevant to the qualification
- the appropriate type and level of qualification.

We recommend that centres provide an induction programme, so the learner fully understands the requirements of the qualification, their responsibilities as a learner and the responsibilities of the centre. This information can be recorded on a learning contract.

Inclusion and diversity

City & Guilds is committed to improving inclusion and diversity within the way we work and how we deliver our purpose which is to help people and organisations develop the skills they need for growth. More information and guidance to support centres in supporting inclusion and diversity through the delivery of City & Guilds qualifications can be found here: **[Inclusion and diversity | City & Guilds \(cityandguilds.com\)](#)**

Sustainability

City & Guilds are committed to net zero. Our ambition is to reduce our carbon emissions by at least 50% before 2030 and develop environmentally responsible operations to achieve net zero by 2040 or sooner if we can. City & Guilds is committed to supporting qualifications that help our customers to consider sustainability and their environmental footprint.

More information and guidance to support centres in developing sustainable practices through the delivery of City & Guilds qualifications can be found here: **[Our Pathway to Net Zero | City & Guilds \(cityandguilds.com\)](#)**

Centres should consider their own carbon footprint when delivering this qualification and consider reasonable and practical ways of delivering this qualification with sustainability in mind. This could include:

- reviewing purchasing and procurement processes (such as buying in bulk to reduce the amount of travel time and energy and considering and investing in the use of resources that can be reused, instead of the use of disposable or single use consumables)
- waste procedures (ensuring that waste is minimised and recycling is in place wherever possible)
- minimising water use and considering options for reuse/salvage wherever possible.

Support materials

The following resources are available for this qualification:

Description	How to access
Qualification handbook	www.nptc.org.uk
Practical assessment guidance	Available only via the assessor secure area www.nptc.org.uk

4 Assessment

Assessment of the qualification

Candidates must successfully complete:

- one practical observation with oral questioning for **each** registered unit

Unit	Title	Assessment method	Where to obtain assessment materials
244	Operating boat mounted sprayers fitted with hydraulic nozzles/rotary atomisers for applying pesticides to water (PA5A)	Practical observation with oral questioning Externally set, assessed by a City & Guilds NPTC approved assessor, externally verified	Assessors must use the materials provided by City & Guilds. Practical assessment guidance can be downloaded from the assessor secure area of www.nptc.org.uk
245	Operating boat mounted granular applicators for applying pesticides to water (PA5B)	Practical observation with oral questioning Externally set, assessed by a City & Guilds NPTC approved assessor, externally verified	Assessors must use the materials provided by City & Guilds. Practical assessment guidance can be downloaded from the assessor secure area of www.nptc.org.uk
246	Operating boat mounted applicators for applying pesticides to water (PA5P)	Practical observation with oral questioning Externally set, assessed by a City & Guilds NPTC approved assessor, externally verified	Assessors must use the materials provided by City & Guilds. Practical assessment guidance can be downloaded from the assessor secure area of www.nptc.org.uk

Assessment strategy

City & Guilds has written the following assessments to use with this qualification:

- live practical assessment guidance (practical observation with oral questioning) that can be downloaded from the assessor secure area of the NPTC website.

During the assessment the candidate may refer to operator manuals, training materials or safety publications, but they may not refer to the Qualification Handbook (QHB).

Time constraints

The following **must** be applied to the assessment of this qualification:

- Candidates must complete their assessment within 12 months of initial registration.
- Practical observation and oral questioning should take between 1.5–3 hours.

Summary of responsibilities in preparing for 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 and/or equipment and materials are available to enable assessment of all the activities to take place	To be familiar with the machinery and/or equipment being used for the assessment	Ensuring that the machinery and/or equipment and materials provided satisfy the assessment requirements
	To bring appropriate Personal Protective Equipment (PPE) and/or Respiratory Protective Equipment (RPE) to the assessment	Wearing appropriate PPE and/or RPE. Ensuring that candidate's PPE and/or RPE complies with the requirements of the assessment
	To bring relevant training materials (if applicable)	
	To bring a product label and application record appropriate for the assessment	To ensure that the product label and application record is appropriate for the assessment (or provide a suitable alternative)

5 Units

Structure of the units

These units each have the following:

- City & Guilds reference number
- title
- level
- Guided Learning Hours (GLH)
- credit value
- unit aim
- assessment method
- Learning Outcomes (LOs), which are comprised of a number of Assessment Criteria (ACs)
- supporting information

Guidance for delivery of the units

This qualification comprises of a number of **units**. A unit describes what is expected of a competent person in particular aspects of their job.

Each unit is divided into **Learning Outcomes (LOs)** which describe in further detail the skills and knowledge that an individual should possess.

Each Learning Outcome (LO) has a set of **Assessment Criteria (ACs)** (performance and knowledge and understanding) which specify the desired criteria that must be satisfied before an individual can be said to have performed to the agreed standard.

Supporting information provides guidance of the evidence requirement for the units, specific guidance on safe practice, and suggested learning resources. Centres are advised to review this information carefully before delivering the unit.

Unit 244 Operating boat mounted sprayers fitted with hydraulic nozzles/rotary atomisers for applying pesticides to water (PA5A)

Level:	2
GLH:	54
Assessment method:	Practical observation with oral questioning
Aim:	The purpose of this unit is for learners to safely operate boat mounted sprayers fitted with hydraulic nozzles/rotary atomisers for applying pesticides to water.

Learning Outcomes

- LO1 Understand the legislative, regulatory and Codes of Practice (CoP) requirements relating to applicator use
- LO2 Read and interpret information on a product label
- LO3 Assess the environmental risks relating to the filling and application site
- LO4 Prepare and calibrate the applicator
- LO5 Operate the applicator
- LO6 Know how to carry out post-operational procedures

Assessment Criteria	Scope of study
AC1.1 Describe the legislative, regulatory and Codes of Practice (CoP) requirements relating to applicator use	Assessment Criteria 1.1 Legislative, regulatory and Codes of Practice (CoP) requirements relating to applicator use: a) Operator's responsibility under legislation: i) Follow product label requirements for correct application of pesticides. ii) Follow employer instructions and training for applicator use. iii) Use Integrated Pest Management (IPM) techniques where possible. iv) Protect flora and fauna from harm when carrying out work. v) Ensure public access on foot to area of land is not prohibited/restricted during work unless permission is granted. b) Operator's responsibility under regulations: i) Follow obligations on the use and disposal of Plant Protection Products (PPPs), including packaging. ii) Read, understand and comply with Control of Substances Hazardous to Health (COSHH)/risk assessments and adhere to the control measures put in place.

- iii) Use, maintain and store Personal Protective Equipment (PPE)/Respiratory Protective Equipment (RPE) as provided and instructed.
- iv) Follow instructions and training in the inspection, use, calibration and maintenance of applicators.
- v) Follow compliance requirements for the management and disposal of waste.
- vi) Be prepared for inspection of PPPs record keeping and storage.
- vii) Know the company policy on how to report Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) to the HSE (Health and Safety Executive).
- c) Operator's responsibility under Pesticide Code of Practice (CoP) for using Plant Protection Products (PPPs):
 - i) Hold (or be under supervision of a holder of) a specified certificate directly related to the application method and/or applicator being used (Certificates of Competence (CoC)).
 - ii) Apply pesticides safely and effectively following product information and complying with current legislation.
- d) Work in accordance with the UK Pesticides National Action Plan (NAP):
 - i) Use IPM and alternative approaches or techniques where possible.
 - ii) Reduce impact by applying pesticides at appropriate times, safely monitor and contain active substances which are particularly harmful.
 - iii) Ensure storage, handling and disposal operations do not endanger human health or the environment, comply with inspections, enforcement and other official control activities.

AC1.2 State how to apply pesticides safely to water following industry best practice

Assessment Criteria 1.2

Applying pesticides to water:

- a) Operator's responsibility under legislation and regulations:
 - i) Ensure the pesticide product has aquatic approval.
 - ii) Seek approval from appropriate environmental agency.
- b) Operator safety considerations when applying pesticides to water:
 - i) Check bank stability and access.
 - ii) Availability of a second person on site.
 - iii) Availability of life ring/rescue devices.
 - iv) Check tidal activity.

AC1.3 State the requirements for protecting the operator from contamination and physical harm following industry best practice

Assessment Criteria 1.3

Requirements for protecting the operator from contamination and physical harm following industry best practice:

- a) Operator safety requirements in terms of using boat mounted sprayers:
 - i) Extra person present at all times.
 - ii) Comply with relevant codes of practice.
 - iii) Availability of life ring/rescue devices.
 - iv) Personal flotation device.
- b) Factors which may affect the speed of the boat:
 - i) Wind speed.
 - ii) Water flow.
 - iii) Plant material obstruction.

Assessment Criteria	Scope of study
AC2.1 Read and interpret information on a product label	Assessment Criteria 2.1 Information on a product label: a) Product information: i) Product name ii) Active substance(s) (ingredients) iii) Product group symbol iv) Approval number v) Reason for use vi) Expiry date/shelf life. b) Important information: i) Approved field of use ii) Maximum individual dose iii) Maximum total dose iv) Maximum number of treatments v) Latest time of application. c) Safety precautions: i) Operator protection ii) Environmental protection iii) Restrictions on use iv) Specific product precautions. d) Crop specific information: i) Crop/target ii) Dose rate iii) Timing of application(s) iv) Water volume. e) Mixing and application information: i) Appropriate for applicator ii) Filling iii) Recommended nozzles iv) Recommended pressure v) Reduced volume applications vi) Spray quality vii) Compatibility viii) Label information unique to the product.
AC3.1 Identify environmental risks to the filling and application site and explain how to minimise these risks	Assessment Criteria 3.1 Environmental risks to the filling and application site and how to minimise these risks: a) Environmental factors at risk at the filling and application site: i) Ground conditions. ii) Water courses. iii) Drains. iv) Boreholes. v) Environmental margins/strips/areas. vi) Wildlife. vii) Beneficial insects. viii) Non-target plants. ix) Sensitive crops/areas. x) Hedgerows. xi) Housing. xii) Public access. xiii) Other environmental factors relevant to the site. b) Minimise risks to the filling and application site: i) Check and maintain application rate. ii) Monitor weather conditions. iii) Avoid spray drift. iv) Avoid off target application. v) Avoid surface run-off.

Assessment Criteria	Scope of study
	vi) Observe buffer zones or alter in line with current schemes. vii) Observe environmental margins/strips/areas. viii) Inform neighbours. ix) Erect warning signs. x) Use an appropriate pesticide (minimal environmental impact). xi) Appropriate timing of application.
AC3.2 Identify aquatic environmental risks to the application site and how to minimise these risks	Assessment Criteria 3.2 Environmental risks to the aquatic application site and how to minimise these risks: a) Environmental factors at risk at the aquatic application site: i) Livestock drinking points. ii) Recreational use of water body/course. iii) Water extraction points. iv) De-oxygenation of water. v) Removal of fish cover. vi) Removal of bankside wildlife habitat. vii) Removal of bankside vegetation leading to bank erosion. viii) Other environmental factors relevant to the site. b) Minimise risks to the aquatic environment: i) Work in an upstream direction. ii) Check weather suitability before treatment. iii) Check downstream uses before treatment. iv) Seek approval from appropriate environmental agency. v) Use of an appropriate pesticide (minimal environmental impact). vi) Appropriate timing of treatment.
AC4.1 Identify applicator components, controls and types of nozzles	Assessment Criteria 4.1 Applicator components, controls and types of nozzles: a) Applicator components: i) Tank ii) Pump iii) Pulsation damper iv) Filling devices v) Pressure gauge vi) Filters vii) Tank wash system viii) Clean water tank(s) ix) Valve positions x) Other components specific to the applicator. b) Applicator controls: i) Filling ii) Agitation iii) Pressure or volume regulator or pressure relief valve iv) On/off v) Tank drain vi) Other controls specific to the applicator. c) Nozzle types: i) Flat fan. ii) Air inclusion. iii) Deflector.
AC4.2 Carry out pre-use checks to the boat	Assessment Criteria 4.2 Pre-use checks relevant to the boat: a) Suitable for the situation b) Suitable lashing points

Assessment Criteria	Scope of study
	c) Accessibility of boat controls d) Accessibility of sprayer controls e) Even loading f) Outboard motor g) Applicator power source h) Presence of personal flotation device i) No equipment on operator's back when operating from the boat.
AC4.3 Carry out pre-use and operational checks to the applicator	Assessment Criteria 4.3 Pre-use and operational checks to the applicator: a) Security of attachment: i) Fasteners tight ii) Straps inspected. b) Possible mechanical defects: i) Seized, worn or damaged controls/components ii) Atomiser drives and electrical connectors. c) Applicator lubrication checks: i) Identification of lubrication points ii) Visual inspection of lubrication points iii) Visual inspection of levels. d) Remove, clean and refit an applicator filter: i) Remove and clean ii) Contain spillage iii) Check for defects iv) Refit. e) Remove, clean and refit a nozzle/atomiser: i) Remove and clean ii) Contain spillage iii) Check for defects iv) Refit. f) Using the controls/control panel to ensure that the applicator is functioning correctly: i) Functions of controls/control panel ii) Recognition of malfunctions before and during operation iii) Switch to manual/test mode. g) Part fill the applicator: i) Suitable site selected ii) Part-fill using an appropriate method. h) Applicator leaks and correct spray patterns checks: i) Suitable site selected ii) Identify from nozzle chart the appropriate nozzle for use iii) Use higher than normal operating pressure iv) Visual check of applicator components for leaks v) Reset to normal pressure for nozzle fitted vi) Visual check of all nozzles/atomisers for: • correct spray patterns • absence of blockages • streaking • pulsing • correct alignment.
AC4.4 Calibrate the applicator	Assessment Criteria 4.4 Calibrate the applicator: a) Calibrate the applicator. b) Calculate application volume/output and check against product label information. c) Make applicator adjustments based on requirements. d) Factors that would affect calibration:

Assessment Criteria	Scope of study
	i) Boat forward speed. ii) Application volume. iii) Nozzle/atomiser fitted. iv) Pressure/disc speed. v) Flow rate.
AC5.1 Calculate and measure the required quantities of pesticide and water and add to the applicator	Assessment Criteria 5.1 Calculate and measure the required quantities of pesticide and water and add to the applicator: a) Calculate the quantities of pesticide and water required: i) Amount of water required for specified area. ii) Amount of pesticide required for specified area. iii) Amount of pesticide required for full tank. b) Measure quantities of pesticide and water and add to the applicator: i) Correct selection and use of Personal Protective Equipment (PPE)/Respiratory Protective Equipment (RPE) (as required by the product label and/or Control of Substances Hazardous to Health (COSHH)/risk assessment) ii) Manual handling considerations iii) Correct mixing sequence iv) Adequate agitation v) Suitable site selected with provision for containment and access to a spill kit vi) Accurate measurement of pesticide and water vii) Correct filling procedure or use of filling device viii) Avoidance of spillage ix) Return concentrate pesticide to secure storage.
AC5.2 Explain how to safely and accurately operate the applicator	Assessment Criteria 5.2 Safe and accurate operation of the applicator: a) Marking out the site to achieve accurate application: i) Marker poles. ii) Buoys. iii) Use of Global Positioning System (GPS). b) Procedure for refilling the applicator part way through application: i) Mark the point where the applicator emptied ii) Return to the bank and refill applicator iii) Recommence spraying where the applicator emptied. c) Actions to take when an applicator develops a fault during application: i) Select and use appropriate Personal Protective Equipment (PPE)/Respiratory Protective Equipment (RPE) ii) Fault identified and rectified if within the operator's level of capability and responsibility. d) Procedure when encountering obstacles: i) Appropriate method of avoiding obstacle in relation to applicator: • physical manoeuvre. • electronic manoeuvre.
AC5.3 Carry out safe and accurate application procedures	Assessment Criteria 5.3 Safe and accurate application procedures: a) Check wind speed and direction: i) Use of an anemometer. ii) Use of visual signs. iii) Use of a compass.

- b) Safe and accurate application procedures:
 - i) Treatment area clearly identified
 - ii) Check tidal timings
 - iii) Direction of travel established dependent on the water flow
 - iv) Operate controls to start and finish applying accurately at the beginning and end of each bout
 - v) Correct forward speed and pressure for site conditions
 - vi) Accurate switching on/off points
 - vii) Accurate matching of bouts
 - viii) Area treated minimising overlaps and misses
 - ix) Avoidance of off target contamination/application.
- c) Completion of an application record must be:
 - i) Accurate
 - ii) Legible.

AC6.1 Explain how to manage and dispose of surplus dilute pesticide

Assessment Criteria 6.1

Managing and disposing of surplus dilute pesticide:

- a) Managing surplus dilute pesticide:
 - i) Below the maximum dose rate: apply to the original application target/site.
 - ii) At maximum dose rate: apply to another untreated approved target/site.
- b) Disposing of surplus dilute pesticide:
 - i) Treated by a specialist treatment facility on site.
 - ii) Collected by a licensed waste disposal contractor.

AC6.2 Explain how to clean, decontaminate and store the applicator and the boat

Assessment Criteria 6.2

Cleaning, decontaminating and storing the applicator and the boat:

- a) Cleaning and decontaminating the applicator and the boat:
 - i) Reducing the risk of personal contamination:
 - select and use appropriate Personal Protective Equipment (PPE)/Respiratory Protective Equipment (RPE).
 - ii) Reducing the risk of environmental contamination:
 - appropriate site.
 - safe disposal of contaminated washings.
 - iii) Effective cleaning and decontamination:
 - ensure the applicator is made safe.
 - care to ensure contamination 'hot spots' are clean.
 - thorough washing of internal and external surfaces.
 - thorough flushing of systems.
 - iv) When cleaning of the applicator should take place:
 - after the application is completed.
 - if changing to a different product.
 - to avoid applicator damage from pesticide.
 - to carry out maintenance.
- b) Storage requirements for the applicator:
 - i) Refer to manufacturer's handbook.
 - ii) Clean and dry.
 - iii) Inspect for wear and damage.
 - iv) Replace any worn or damaged parts.
 - v) Frost protection measures implemented.
 - vi) Lubricate.
 - vii) Undercover and out of direct sunlight.
 - viii) Leave in a stable position.
 - ix) In a secure area.

Unit 245 Operating boat mounted granular applicators for applying pesticides to water (PA5B)

Level:	2
GLH:	54
Assessment method:	Practical observation with oral questioning
Aim:	The purpose of this unit is for learners to safely operate boat mounted granular applicators for applying pesticides to water.

Learning Outcomes

- LO1 Understand the legislative, regulatory and Codes of Practice (CoP) requirements relating to applicator use
- LO2 Read and interpret information on a product label
- LO3 Assess the environmental risks relating to the filling and application site
- LO4 Prepare and calibrate the applicator
- LO5 Operate the applicator
- LO6 Know how to carry out post-operational procedures

Assessment Criteria	Scope of study
AC1.1 Describe the legislative, regulatory and Codes of Practice (CoP) requirements relating to applicator use	Assessment Criteria 1.1 Legislative, regulatory and Codes of Practice (CoP) requirements relating to applicator use: a) Operator's responsibility under legislation: i) Follow product label requirements for correct application of pesticides. ii) Follow employer instructions and training for applicator use. iii) Use Integrated Pest Management (IPM) techniques where possible. iv) Protect flora and fauna from harm when carrying out work. v) Ensure public access on foot to area of land is not prohibited/restricted during work unless permission is granted. b) Operator's responsibility under regulations: i) Follow obligations on the use and disposal of Plant Protection Products (PPPs), including packaging. ii) Read, understand and comply with Control of Substances Hazardous to Health (COSHH)/risk assessments and adhere to the control measures put in place. iii) Use, maintain and store Personal Protective Equipment (PPE)/Respiratory Protective Equipment (RPE) as provided and instructed.

Assessment Criteria	Scope of study
	iv) Follow instructions and training in the inspection, use, calibration and maintenance of applicators. v) Follow compliance requirements for the management and disposal of waste. vi) Be prepared for inspection of PPPs record keeping and storage. vii) Know the company policy on how to report Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) to the HSE (Health and Safety Executive). c) Operator's responsibility under Pesticide Code of Practice (CoP) for using Plant Protection Products (PPPs): i) Hold (or be under supervision of a holder of) a specified certificate directly related to the application method and/or applicator being used (Certificates of Competence (CoC)). ii) Apply pesticides safely and effectively following product information and complying with current legislation. d) Work in accordance with the UK Pesticides National Action Plan (NAP): i) Use IPM and alternative approaches or techniques where possible. ii) Reduce impact by applying pesticides at appropriate times, safely monitor and contain active substances which are particularly harmful. iii) Ensure storage, handling and disposal operations do not endanger human health or the environment, comply with inspections, enforcement and other official control activities.
AC1.2 State how to apply pesticides safely to water following industry best practice	Assessment Criteria 1.2 Applying pesticides to water: a) Operator's responsibility under legislation and regulations: i) Ensure the pesticide product has aquatic approval. ii) Seek approval from appropriate environmental agency. b) Operator safety considerations when applying pesticides to water: i) Check bank stability and access. ii) Availability of a second person on site. iii) Availability of life ring/rescue devices. iv) Check tidal activity.
AC1.3 State the requirements for protecting the operator from contamination and physical harm following industry best practice	Assessment Criteria 1.3 Requirements for protecting the operator from contamination and physical harm following industry best practice: a) Operator safety requirements in terms of using boat mounted applicators: i) Extra person present at all times. ii) Comply with relevant codes of practice. iii) Availability of life ring/rescue devices. iv) Personal flotation device. b) Factors which may affect the speed of the boat: i) Wind speed. ii) Water flow. iii) Plant material obstruction.
AC2.1 Read and interpret information on a product label	Assessment Criteria 2.1 Information on a product label: a) Product information: i) Product name ii) Active substance(s) (ingredients)

Assessment Criteria	Scope of study
	iii) Product group symbol iv) Approval number v) Reason for use vi) Expiry date/shelf life. b) Important information: i) Approved field of use ii) Maximum individual dose iii) Maximum total dose iv) Maximum number of treatments v) Latest time of application. c) Safety precautions: i) Operator protection ii) Environmental protection iii) Buffer zone iv) Restrictions on use v) Specific product precautions. d) Crop specific information: i) Crop/target ii) Dose rate iii) Timing of application(s) e) Mixing and application information: i) Appropriate for applicator ii) Label information unique to the product.

AC3.1 Identify environmental risks to the filling and application site and explain how to minimise these risks

Assessment Criteria 3.1

Environmental risks to the filling and application site and how to minimise these risks:

- a) Environmental factors at risk at the filling and application site:
 - i) Ground conditions.
 - ii) Water courses.
 - iii) Drains.
 - iv) Boreholes.
 - v) Environmental margins/strips/areas.
 - vi) Wildlife.
 - vii) Beneficial insects.
 - viii) Non-target plants.
 - ix) Sensitive crops/areas.
 - x) Hedgerows.
 - xi) Housing.
 - xii) Public access.
 - xiii) Other environmental factors relevant to the site.
- b) Minimise risks to the filling and application site:
 - i) Check and maintain application rate.
 - ii) Monitor weather conditions.
 - iii) Avoid off target application.
 - iv) Observe environmental margins/strips/areas.
 - v) Inform neighbours.
 - vi) Erect warning signs.
 - vii) Use an appropriate pesticide (minimal environmental impact).
 - viii) Appropriate timing of application.

AC3.2 Identify aquatic environmental risks to the application site and how to minimise these risks

Assessment Criteria 3.2

Environmental risks to the aquatic application site and how to minimise these risks:

- a) Environmental factors at risk at the aquatic application site:
 - i) Livestock drinking points.
 - ii) Recreational use of water body/course.
 - iii) Water extraction points.

Assessment Criteria	Scope of study
	iv) De-oxygenation of water. v) Removal of fish cover. vi) Removal of bankside wildlife habitat. vii) Removal of bankside vegetation leading to bank erosion. viii) Other environmental factors relevant to the site. b) Minimise risks to the aquatic environment: i) Work in an upstream direction. ii) Check weather suitability before treatment. iii) Check downstream uses before treatment. iv) Seek approval from appropriate environmental agency. v) Use of an appropriate pesticide (minimal environmental impact). vi) Appropriate timing of treatment.

AC4.1 Identify applicator components and controls

Assessment Criteria 4.1

Applicator components and controls:

- a) Applicator components:
 - i) Hopper and lid
 - ii) Motor
 - iii) Emptying outlet/mechanism
 - iv) Other components specific to the applicator.
- b) Applicator controls:
 - i) Agitator
 - ii) On/off
 - iii) Metering mechanism
 - iv) Bias mechanism
 - v) Disc speed
 - vi) Spread width limiter
 - vii) Other controls specific to the applicator.

AC4.2 Carry out pre-use checks to the boat

Assessment Criteria 4.2

Pre-use checks relevant to the boat:

- a) Suitable for the situation
- b) Suitable lashing points
- c) Accessibility of boat controls
- d) Accessibility of applicator controls
- e) Even loading
- f) Outboard motor
- g) Applicator power source
- h) Presence of personal flotation device
- i) No equipment on operator's back when operating from the boat.

AC4.3 Carry out pre-use and operational checks to the applicator

Assessment Criteria 4.3

Pre-use and operational checks to the applicator:

- a) Security of attachment:
 - i) Fasteners tight
 - ii) Straps inspected.
- b) Possible mechanical defects:
 - i) Seized, worn or damaged controls/components
 - ii) Electrical connectors.
- c) Applicator lubrication checks:
 - i) Identification of lubrication points
 - ii) Visual inspection of lubrication points
 - iii) Visual inspection of levels.
- d) Using the controls/control panel to ensure that the applicator is functioning correctly:
 - i) Functions of controls/control panel

Assessment Criteria	Scope of study
	ii) Recognition of malfunctions before and during operation iii) Switch to manual/test mode. e) Part fill the applicator: i) Suitable site selected ii) Part-fill using an appropriate method.
AC4.4 Calibrate the applicator	Assessment Criteria 4.4 Calibrate the applicator: a) Calibrate the applicator. b) Calculate application volume/output and check against product label information. c) Make applicator adjustments based on requirements. d) Factors that would affect calibration: i) Applicator settings. ii) Granule used for calibration. iii) Granule flow rate. iv) Application rate achieved. v) Spreading width. vi) Boat forward speed.
AC5.1 Calculate and weigh the required quantities of pesticide and add to the applicator	Assessment Criteria 5.1 Calculate and measure the required quantities of pesticide and add to the applicator: a) Calculate the quantities of pesticide required: i) Amount of pesticide required for specified area/volume. b) Weigh quantities of pesticide and add to the applicator: i) Correct selection and use of Personal Protective Equipment (PPE)/Respiratory Protective Equipment (RPE) (as required by the product label and/or Control of Substances Hazardous to Health (COSHH)/risk assessment) ii) Manual handling considerations iii) Suitable site selected with provision for containment and access to a spill kit iv) Accurate weighing of pesticide v) Correct filling procedure vi) Avoidance of spillage vii) Return pesticide to secure storage.
AC5.2 Explain how to safely and accurately operate the applicator	Assessment Criteria 5.2 Safe and accurate operation of the applicator: a) Marking out the site to achieve accurate application: i) Marker poles. ii) Buoys. iii) Use of Global Positioning System (GPS). b) Procedure for refilling the applicator part way through application: i) Mark the point where the applicator emptied ii) Return to the bank and refill applicator iii) Recommence application where the applicator emptied. c) Actions to take when an applicator develops a fault during application: i) Select and use appropriate Personal Protective Equipment (PPE)/Respiratory Protective Equipment (RPE) ii) Fault identified and rectified if within the operator's level of capability and responsibility. d) Procedure when encountering obstacles: i) Appropriate method of avoiding obstacle in relation to applicator

Assessment Criteria	Scope of study
	• physical manoeuvre. • electronic avoidance.

AC5.3 Carry out safe and accurate application procedures

Assessment Criteria 5.3

Safe and accurate application procedures:

- a) Check wind speed and direction:
 - i) Use of an anemometer.
 - ii) Use of visual signs.
 - iii) Use of a compass.
- b) Safe and accurate application procedures:
 - i) Treatment area clearly identified
 - ii) Check tidal timings
 - iii) Direction of travel established dependant on the water flow.
 - iv) Ensure applicator is level and at correct height
 - v) Operate controls to start and finish applying accurately at the beginning and end of each bout
 - vi) Correct boat forward speed
 - vii) Awareness of techniques to counteract unbalanced applicator performance
 - viii) Accurate switching on/off points
 - ix) Accurate matching of bouts
 - x) Check uniformity of spread
 - xi) Area treated minimising overlaps and misses
 - xii) Avoidance of off target contamination/application.
- c) Completion of an application record must be:
 - i) Accurate
 - ii) Legible.

AC6.1 Explain how to manage and dispose of surplus pesticide

Assessment Criteria 6.1

Managing and disposing of surplus pesticide:

- a) Managing surplus pesticide for further use:
 - i) Carefully return to original packaging.
 - ii) Return to safe storage.
- b) Disposing of surplus pesticide:
 - i) Collected by a licensed waste disposal contractor.
 - ii) Apply to another untreated approved target/site.

AC6.2 Explain how to clean, decontaminate and store the applicator and the boat

Assessment Criteria 6.2

Cleaning, decontaminating and storing the applicator and the boat:

- a) Cleaning and decontaminating the applicator and the boat:
 - i) Reducing the risk of personal contamination:
 - select and use appropriate Personal Protective Equipment (PPE)/Respiratory Protective Equipment (RPE).
 - ii) Reducing the risk of environmental contamination:
 - appropriate containment site.
 - safe disposal of contaminated residue arising from the cleaning operation.
 - iii) Effective cleaning and decontamination:
 - ensure the applicator is made safe.
 - thorough cleaning of applicator.
 - iv) When cleaning of the applicator should take place:
 - after the application is completed.
 - if changing to a different product.
 - to avoid applicator damage from pesticide.
 - to carry out maintenance.

Assessment Criteria	Scope of study
	b) Storage requirements for the applicator: i) Refer to manufacturer's handbook. ii) Clean and decontaminated. iii) Inspect for wear and damage. iv) Replace any worn or damaged parts. v) Controls left in appropriate conditions. vi) Lubricate. vii) Store undercover and out of direct sunlight. viii) Leave in a stable position. ix) Store in a secure area.

Unit 246 Operating boat mounted applicators for applying piscicides to water (PA5P)

Level:	2
GLH:	54
Assessment method:	Practical observation with oral questioning
Aim:	The purpose of this unit is for learners to safely operate boat mounted applicators for applying piscicides to water.

Learning Outcomes

- LO1 Understand the legislative, regulatory and Codes of Practice (CoP) requirements relating to applicator use
- LO2 Read and interpret information on a product label
- LO3 Assess the environmental risks relating to the filling and application site
- LO4 Prepare and calibrate the applicator
- LO5 Operate the applicator
- LO6 Know how to carry out post-operational procedures

Assessment Criteria	Scope of study
AC1.1 Describe the legislative, regulatory and Codes of Practice (CoP) requirements relating to applicator use	Assessment Criteria 1.1 Legislative, regulatory and Codes of Practice (CoP) requirements relating to applicator use: a) Operator's responsibility under legislation: i) Follow product label requirements for correct application of piscicides. ii) Follow employer instructions and training for applicator use. iii) Use Integrated Pest Management (IPM) techniques where possible. iv) Protect flora and fauna from harm when carrying out work. v) Ensure public access on foot to area of land is not prohibited/restricted during work unless permission is granted. b) Operator's responsibility under regulations: i) Follow obligations on the use and disposal of Plant Protection Products (PPPs), including packaging. ii) Read, understand and comply with Control of Substances Hazardous to Health (COSHH)/risk assessments and adhere to the control measures put in place. iii) Use, maintain and store Personal Protective Equipment (PPE)/Respiratory Protective Equipment (RPE) as provided and instructed.

Assessment Criteria	Scope of study
	iv) Follow instructions and training in the inspection, use, calibration and maintenance of applicators. v) Follow compliance requirements for the management and disposal of waste. vi) Be prepared for inspection of PPPs record keeping and storage. vii) Know the company policy on how to report Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) to the HSE (Health and Safety Executive). c) Operator's responsibility under Pesticide Code of Practice (CoP) for using Plant Protection Products (PPPs): i) Hold (or be under supervision of a holder of) a specified certificate directly related to the application method and/or applicator being used (Certificates of Competence (CoC)). ii) Apply pesticides safely and effectively following product information and complying with current legislation. d) Work in accordance with the UK Pesticides National Action Plan (NAP): i) Use IPM and alternative approaches or techniques where possible. ii) Reduce impact by applying pesticides at appropriate times, safely monitor and contain active substances which are particularly harmful. iii) Ensure storage, handling and disposal operations do not endanger human health or the environment, comply with inspections, enforcement and other official control activities.
AC1.2 State how to apply pesticides safely to water following industry best practice	Assessment Criteria 1.2 Applying pesticides to water: a) Operator's responsibility under legislation and regulations: i) Ensure the pesticide product has aquatic approval. ii) Seek approval from appropriate environmental agency. b) Operator safety considerations when applying pesticides to water: i) Check bank stability and access. ii) Availability of a second person on site. iii) Availability of life ring/rescue devices. iv) Check tidal activity.
AC1.3 State the requirements for protecting the operator from contamination and physical harm following industry best practice	Assessment Criteria 1.3 Requirements for protecting the operator from contamination and physical harm following industry best practice: a) Operator safety requirements in terms of using boat mounted applicators: i) Extra person present at all times. ii) Comply with relevant codes of practice. iii) Availability of life ring/rescue devices. iv) Personal flotation device. b) Factors which may affect the speed of the boat: i) Wind speed. ii) Water flow. iii) Plant material obstruction.
AC2.1 Read and interpret information on a product label	Assessment Criteria 2.1 Information on a product label: a) Product information: i) Product name

Assessment Criteria	Scope of study
	ii) Active substance(s) (ingredients) iii) Product group symbol iv) Approval number v) Reason for use vi) Expiry date/shelf life. b) Important information: i) Approved field of use ii) Maximum individual dose iii) Maximum total dose iv) Maximum number of treatments v) Latest time of application. c) Safety precautions: i) Operator protection ii) Environmental protection iii) Buffer zone iv) Restrictions on use v) Specific product precautions. d) Target specific information: i) Target ii) Dose rate iii) Timing of application(s) iv) Water volume. e) Mixing and application information: i) Appropriate for applicator ii) Filling iii) Compatibility iv) Label information unique to the product.
AC3.1 Identify environmental risks to the filling and application site and explain how to minimise these risks	Assessment Criteria 3.1 Environmental risks to the filling and application site and how to minimise these risks: a) Environmental factors at risk at the filling and application site: i) Ground conditions. ii) Water courses. iii) Boreholes. iv) Environmental margins/strips/areas. v) Wildlife. vi) Beneficial insects. vii) Other environmental factors relevant to the site. b) Minimise risks to the filling and application site: i) Check and maintain application rate. ii) Monitor weather conditions. iii) Avoid off target application. iv) Observe environmental margins/strips/areas. v) Inform neighbours. vi) Erect warning signs. vii) Use an appropriate piscicide (minimal environmental impact). viii) Appropriate timing of application.
AC3.2 Identify aquatic environmental risks to the application site and how to minimise these risks	Assessment Criteria 3.2 Environmental risks to the aquatic application site and how to minimise these risks: a) Environmental factors at risk at the aquatic application site: i) Livestock drinking points. ii) Recreational use of water body/course. iii) Water extraction points. iv) Other environmental factors relevant to the site.

Assessment Criteria	Scope of study
	b) Minimise risks to the aquatic environment: i) Work in an upstream direction. ii) Check weather suitability before treatment. iii) Check downstream uses before treatment. iv) Seek approval from appropriate environmental agency. v) Use of an appropriate piscicide (minimal environmental impact). vi) Appropriate timing of treatment.

AC4.1 Identify applicator components and controls

Assessment Criteria 4.1

Applicator components and controls:

- a) Applicator components:
 - i) Tank
 - ii) Pump
 - iii) Filling devices
 - iv) Pressure gauge
 - v) Filters
 - vi) Tank wash system
 - vii) Clean water tank(s)
 - viii) Valve positions
 - ix) Other components specific to the applicator.
- b) Applicator controls:
 - i) Filling
 - ii) Agitation
 - iii) Pressure or volume regulator or pressure relief valve
 - iv) Flow isolators
 - v) On/off
 - vi) Tank drain
 - vii) Other controls specific to the applicator.

AC4.2 Carry out pre-use checks to the boat

Assessment Criteria 4.2

Pre-use checks relevant to the boat:

- a) Suitable for the situation
- b) Suitable lashing points
- c) Accessibility of boat controls
- d) Accessibility of applicator controls
- e) Even loading
- f) Outboard motor
- g) Applicator power source
- h) Presence of personal flotation device
- i) No equipment on operator's back when operating from the boat.

AC4.3 Carry out pre-use and operational checks to the applicator

Assessment Criteria 4.3

Pre-use and operational checks to the applicator and boat:

- a) Security of attachment:
 - i) Fasteners tight
 - ii) Straps inspected.
- b) Possible mechanical defects:
 - i) Seized, worn or damaged controls/components
 - ii) Electrical connectors.
- c) Applicator lubrication checks:
 - i) Identification of lubrication points
 - ii) Visual inspection of lubrication points
 - iii) Visual inspection of levels.
- d) Remove, clean and refit an applicator filter:
 - i) Remove and clean
 - ii) Contain spillage

Assessment Criteria	Scope of study
	iii) Check for defects iv) Refit. e) Using the controls/control panel to ensure that the applicator is functioning correctly: i) Functions of controls/control panel ii) Recognition of malfunctions before and during operation iii) Switch to manual/test mode. f) Part fill the applicator: i) Suitable site selected ii) Part-fill using an appropriate method. g) Applicator checks: i) Suitable site selected ii) Use higher than normal operating pressure iii) Visual check of applicator components for leaks iv) Reset to normal pressure, visual check for: • absence of blockages.
AC4.4 Calibrate the applicator	Assessment Criteria 4.4 Calibrate the applicator: a) Calibrate the applicator. b) Calculate application volume/output and check against product label information. c) Make applicator adjustments based on requirements. d) Factors that would affect calibration: i) Application volume ii) Pressure iii) Flow rate.
AC5.1 Calculate and measure the required quantities of piscicide and water and add to the applicator	Assessment Criteria 5.1 Calculate and measure the required quantities of piscicide and water and add to the applicator: a) Calculate the quantities of piscicide and water required: i) Amount of water required for specified area. ii) Amount of piscicide required for specified area. iii) Amount of piscicide required for full tank. b) Measure quantities of piscicide and water and add to the applicator: i) Correct selection and use of Personal Protective Equipment (PPE)/Respiratory Protective Equipment (RPE) (as required by the product label and/or Control of Substances Hazardous to Health (COSHH)/risk assessment) ii) Manual handling considerations iii) Correct mixing sequence iv) Adequate agitation v) Suitable site selected with provision for containment and access to a spill kit vi) Accurate measurement of piscicide and water vii) Correct filling procedure or use of filling device viii) Avoidance of spillage ix) Return concentrate piscicide to secure storage.
AC5.2 Explain how to safely and accurately operate the applicator	Assessment Criteria 5.2 Safe and accurate operation of the applicator: a) Marking out the site to achieve accurate application: i) Marker poles. ii) Buoys.

Assessment Criteria	Scope of study
	iii) Use of Global Positioning System (GPS). b) Procedure for refilling the applicator part way through application: i) Mark the point where the applicator emptied ii) Return to the bank and refill applicator iii) Recommence application where the applicator emptied. c) Actions to take when an applicator develops a fault during application: i) Select and use appropriate Personal Protective Equipment (PPE)/Respiratory Protective Equipment (RPE) ii) Fault identified and rectified if within the operator's level of capability and responsibility. d) Procedure when encountering obstacles: i) Appropriate method of avoiding obstacle in relation to applicator • physical manoeuvre. • electronic avoidance.

AC5.3 Carry out safe and accurate application procedures

Assessment Criteria 5.3

Safe and accurate application procedures:

- a) Safe and accurate application procedures:
 - i) Treatment area clearly identified
 - ii) Check tidal timings.
 - iii) Direction of travel established dependent on the water flow
 - iv) Operate controls to start and finish applying accurately at the beginning and end of each bout
 - v) Correct forward speed and pressure for site conditions
 - vi) Accurate switching on/off points
 - vii) Accurate matching of bouts
 - viii) Area treated minimising overlaps and misses
 - ix) Avoidance of off target contamination/application.
- b) Completion of an application record must be:
 - i) Accurate
 - ii) Legible.

AC6.1 Explain how to manage and dispose of surplus dilute piscicides

Assessment Criteria 6.1

Managing and disposing of surplus dilute piscicide:

- a) Managing surplus dilute piscicides:
 - i) Below the maximum dose rate: apply to the original application target/site.
 - ii) At maximum dose rate: apply to another untreated approved target/site.
- b) Disposing of surplus dilute piscicides:
 - i) Treated by a specialist treatment facility on site.
 - ii) Collected by a licensed waste disposal contractor.

AC6.2 Explain how to clean, decontaminate and store the applicator and the boat

Assessment Criteria 6.2

Cleaning, decontaminating and storing the applicator and the boat:

- a) Cleaning and decontaminating the applicator and the boat:
 - i) Reducing the risk of personal contamination:
 - select and use appropriate Personal Protective Equipment (PPE)/Respiratory Protective Equipment (RPE).
 - ii) Reducing the risk of environmental contamination:
 - appropriate site.
 - safe disposal of contaminated washings.
 - iii) Effective cleaning and decontamination:
 - ensure the applicator is made safe.

- care to ensure contamination 'hot spots' are clean.
 - thorough washing of internal and external surfaces.
 - thorough flushing of systems.
 - iv) When cleaning of the applicator should take place:
 - after the application is completed.
 - if changing to a different product.
 - to avoid applicator damage from piscicide.
 - to carry out maintenance.
 - b) Storage requirements for the applicator:
 - i) Refer to manufacturer's handbook.
 - ii) Clean and dry.
 - iii) Inspect for wear and damage.
 - iv) Replace any worn or damaged parts.
 - v) Frost protection measures implemented.
 - vi) Lubricate.
 - vii) Undercover and out of direct sunlight.
 - viii) Leave in a stable position.
 - ix) In a secure area.
-

Supporting information

Evidence requirements

Practical observation and oral questioning by a City & Guilds NPTC approved assessor.

A prepopulated Record Of Assessment (ROA) must be completed by the assessor following an assessment. **All** Assessment Criteria (AC) must be completed as either 'met' or 'not met' for each outcome on the ROA.

The assessment(s) can be achieved at **pass** only. **All** Assessment Criteria (AC) must be met to achieve a pass result, if any AC is not met the candidate is unsuccessful and will fail the assessment.

Candidates who undertake this assessment and have met the requirements are reminded of their legal obligation to receive/undertake appropriate additional training in the use of any equipment that differs from that used during the assessment, but which they are nevertheless qualified to use.

Unit guidance

The delivery of this qualification should be carried out in a real-life working environment with a suitable site with crop and/or target.

Learners should be familiar with all equipment and machinery that they are going to operate.

Provision must be made to comply with environmental and sustainability regulations and standards; segregation of resources for reuse, recycling and disposal should be implemented.

New technologies should be included within delivery of this qualification to allow learners to practise without wasting products. Artificial intelligence (AI) and virtual reality (VR) could also be used to deliver knowledge and practical sessions.

It is recommended that the delivery integrates visits/engagement with local industry and employers to ensure that the implementation of legislation, policies, codes of practice and industry best practice are up to date.

Safe practice

The assessor and candidate must wear Personal Protective Equipment (PPE) and, if required, Respiratory Protective Equipment (RPE) during the practical activities.

Assessors must ensure a site-specific risk assessment is carried out and sufficient control measures are implemented.

A First Aid kit meeting current regulations, of the appropriate size for the number of persons on site, must be available.

All equipment and/or machinery used in the delivery and assessment of the qualification must comply with manufacturer's guidelines and the relevant requirements of the Provision and Use of Work Equipment Regulations (PUWER) 1998. Equipment and/or machines must be used/operated in such a way that the learner, assessor, other persons and/or equipment and/or machinery are not endangered.

A breach of Health and Safety that puts any person at risk during the assessment process will result in the assessment being terminated and the candidate not meeting the required standard. The assessor may stop the assessment on the grounds of safety at any time at their discretion.

Suggested learning resources

Health and Safety Executive (HSE) information sheet AIS16 & AIS22 Available via:
<https://www.hse.gov.uk/pubns/ais16.htm>

National Sprayer Testing Scheme (NSTS). Available via:
<https://www.nsts.org.uk/Documents-Links>

Pesticides Code of Practice. Available via: **<https://www.hse.gov.uk/pesticides/using-pesticides/codes-of-practice/code-of-practice-for-using-plant-protection-products.htm>**

The Official Controls (Plant Protection Products) Regulations 2020. Available via:
<https://www.legislation.gov.uk/uksi/2020/552/contents>

UK Pesticides National Action Plan 2025: Working for a more sustainable future. Available via:
<https://www.gov.uk/government/publications/uk-pesticides-national-action-plan-2025/uk-pesticides-national-action-plan-2025-working-for-a-more-sustainable-future>

Voluntary Initiative. Available via: **<https://voluntaryinitiative.org.uk/>**

Additional information may be sought from the relevant manufacturer's operator's manual, product information or database, nozzle chart(s) or any other publication by the government or a government agency.

Appendix 1 Sources of general information

The following documents contain essential information for centres delivering City & Guilds qualifications. They should be referred to in conjunction with this handbook. 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

This document sets out the minimum common quality assurance requirements for our qualifications that feature centre-assessed components.

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 guidance on administering portfolios and controlled assessments, including a definition of supervised conditions.

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

This 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.

City & Guilds

City & Guilds is the global skills partner, empowering people, organisations and economies to develop the skills they need for growth. With almost 150 years of trusted expertise, we support people into work, help them develop on the job and move into the next job.

We work with Governments, employers, training providers, colleges and industry stakeholders to design and deliver high-quality training, qualifications, assessments and credentials that lead to meaningful career progression. We understand the life changing link between skills development, social mobility and success. Our solutions span critical sectors including construction, engineering, transport, energy and electrical, serving over 1 million learners annually.

Through our comprehensive portfolio of brands and trusted global network, we set industry-wide standards for technical, behavioural and commercial skills to improve performance and productivity. We believe you can achieve your potential - and we're here to help make it happen. NPTC is part of City & Guilds, the UK's largest awarding organisation in the land-based sector.

Copyright

The content of this document is, unless otherwise indicated, © City & Guilds Limited and may not be copied, reproduced or distributed without prior written consent. However, approved City & Guilds centres and candidates studying for City & Guilds qualifications may photocopy this document free of charge and/or include a PDF version of it on centre intranets on the following conditions:

- centre staff may copy the material only for the purpose of teaching learners working towards a City & Guilds qualification, or for internal administration purposes
- candidates may copy the material only for their own use when working towards a City & Guilds qualification.

The Standard Copying Conditions (which can be found on the City & Guilds website) also apply.

Every effort has been made to ensure that the information contained in this publication is true and correct at time of going to press. However, NPTC products and services are subject to continuous development and improvement, and the right is reserved to change products and services from time to time. City & Guilds Limited cannot accept responsibility for any loss or damage arising from the use of information in this publication.

©2025 City & Guilds Limited (Reg No 16513878). All rights reserved. City & Guilds and NPTC are trademarks of City & Guilds Limited.

City & Guilds
Giltspur House
5–6 Giltspur Street
London
EC1A 9DE
cityandguilds.com/about-us