City & Guilds Level 2 Award In The Safe Application of Pesticides Using Specialist Equipment (PASC) (0216-62)

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	Unit Numbers Updated Formatting	Throughout

Contents

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 276 Operating automated equipment for applying 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 automated/robotic equipment
5. Be able to operate the application equipment
6. Know how to carry out post-operational procedures

Unit 277 Operation of Mounted, Trailed or Self Propelled Electrostatic Charged Sprayers for applying Pesticides to Crops 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

Unit 278 Operation of Pesticide Applicators attached to Cultivating or Planting Equipment 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 the filling & application site
3. Be able to read and interpret product information
4. Be able to prepare and calibrate the applicator(s)
5. Be able to operate the applicator(s)
6. Know how to carry out post-operational procedures

Unit 279 Operation of a sprayer mounted on a train fitted with hydraulic nozzles for applying 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 filling, 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

Unit 280 Operation of a bankside sprayer mounted on a train fitted with hydraulic nozzles for applying 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 filling, 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

Unit 281 Operating 'any other' equipment for applying 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 filling, 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 276 Operating automated equipment for applying pesticides

.		Assessment criteria
1.1	Describe the legal requirements relating to applying pesticides using automated or robotic equipment	May include: • all required guards are in place and equipment complies with legal requirements • 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 automated or robotic equipment following industry best practice	May include: • 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
2.1	Identify risks to the environment	May include: • ground conditions • water courses • drains • boreholes • wildlife • non-target plants • sensitive crops/areas • hedgerows • housing • public access • other risks particular to the site
2.2	Explain how to minimise risks to the environment	Explanation may include the following points: • check and maintain application rate • avoid spray drift • avoid off target application • observe buffer zones • comply with LERAP requirements • inform neighbours • erect warning signs • use an appropriate pesticide (minimal environmental impact) • appropriate timing of application • operate within any temperature parameters Minimising spray drift:

		• avoidance of contamination to people and the environment Check wind speed and direction: • use of anemometer at suitable height or visible signs • wind direction Factors that affect spray drift: • wind speed and direction • nozzle type and size • pressure • forward speed • nozzle height • defective equipment • suction effect of wind
3.1 - 3.2	Read product information Interpret product information	May include the following: • product name • active substance(s) (ingredient(s)) Important information: • 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 Crop specific information: • crop/target • dose rate • water volume • timing Mixing and spraying: • filling • reduced volume applications (if applicable) • recommended nozzles • recommended pressure • spray quality • additional label information • compatibility
4.1	Identify the components & controls on the equipment	May include: • tank • lid • filters • pipe work • pump

		• pressure control • nozzles • pressure gauge • connections • seals • metering devices • mechanical/electrical controls • programming controls Nozzle types • flat fan – fine/medium/coarse spray • air inclusion – medium/coarse spray, low-drift • cone – fine spray good coverage
4.2	Carry out pre use checks to the prime mover (if applicable)	May include: • integrity of power source • fluid levels • fail-safe systems
4.3	Carry out pre-use checks to the application equipment	May include: • metering & delivery systems • drive systems • condition & tension of belts Security of attachment • boom suspension/break-back devices (if applicable) • security of attachment to prime mover • lubrication of components • checking for leaks under pressure • any problems identified to be rectified if within operators level of responsibility and ability
4.4	Calibrate the application equipment and record relevant data	May include: • accurate measurements • accurate timings • accurate calculations • correct use of formulae Calibration data may include: • equipment settings used • product used for calibration • application rate achieved
4.5	Measure the area to be treated	Must include: • accurate measurements
4.6	Calculate the area to be treated	Must include: • accurate calculations
4.7	Calculate the quantities of pesticide and water required for a specified area	May include: • amount of water required for specified area

		• amount of pesticide required for specified area
5.1	Measure the required quantities and add to the applicator, or attach pesticide container	To include all of the following: • correct selection and use of PPE/RPE (as required by the product label, COSHH/Risk Assessment) • suitable site selected • fill following product recommendations and approved procedures • correct use of water supply • accurate measurement of water • accurate measurement of pesticide • avoidance of spillage or • attach pesticide container
5.2	Demonstrate safe and accurate application procedures	To include: • treatment area clearly identified • constant speed maintained • accurate switch on/off points • accurate matching of bouts • obstacles dealt with correctly (if applicable) • area treated minimising overlaps and misses • awareness of changing climatic conditions and appropriate action taken (if applicable)
5.3	Carry out all activities protecting human health and the environment	To include: • prevention of personal injury and contamination through correct selection and use of PPE/RPE (as required by the product information and/or COSHH/Risk Assessment) • prevention of public/bystander contamination • safe filling procedure • avoidance of spray drift • avoidance of off target application • avoidance of over/under dosing crop/target/plant material
5.4	Complete a treatment record	Completion of the treatment record must be: • accurate • legible (if handwritten)
6.1	Explain how to manage surplus pesticide and dispose of waste material	Surplus concentrate pesticide • return to temporary mobile store • return to fixed store Containers: • triple rinsed • placed in secure storage until disposal • returned to supplier

		• collected by a licensed waste disposal contractor Packaging: • thoroughly emptied • placed in secure storage until disposal • collected by a licensed waste disposal contractor Surplus dilute pesticides • back on to target as long as it is below the maximum dose rate • use on another approved crop/target • treated by specialist treatment facility on site (e.g. a lined bio bed) • collected by a licensed waste disposal contractor
6.2	Explain how to clean and decontaminate the application equipment	May include: • select and use correct PPE/RPE • selection of an appropriate site for cleaning the application equipment • triple rinse the applicator following product information recommendations • through flushing of system • safe disposal of contaminated washings in an appropriate manner following good practice • safe procedures followed
6.3	Describe the storage requirements for the application equipment	May include: • de-pressurisation • ensure the application equipment is clean and dry • inspect for wear or damage • repair or notify supervisor if not within operators level of responsibility and ability • lubricate if required • frost protection measures implemented • nozzles and filters removed prior to freezing conditions • store in a secure area • isolation of any electrical controls • store under cover and out of direct sunlight

Unit 277 Operation of mounted, trailed or self propelled electrostatic charged sprayers for applying pesticides to crops

Activity number and description from check list		Assessment criteria
1.1	Describe the legal requirements relating to applying pesticides using electrostatic equipment	May include: • 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 electrostatic equipment following industry best practice	Operator safety regulation may include: • 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 • awareness of possible electro-hazards Checks to protect self from pesticide contamination: Sealed cab: • 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 pressurised • components within confines of cab Open cab/canopy/platform: • use of appropriate PPE • awareness of the siting of pressurised • components within confines of cab/canopy/platform Checks to protect self from physical danger during operation: • compatibility of prime mover and sprayer • front weights • wheel track width • correct tyre pressures • condition of tyres • brake function • circuit integrity

		Safe practice when driving on uneven/sloping terrain: • assess conditions • select four wheel drive (if fitted) • appropriate speed • correct gear selection • effect of changing load on stability • use of weights to stabilise prime mover • correct turning procedure
2.1	Identify risks to the environment	May include: • ground conditions • water courses • environmental margins/strips/areas • drains • boreholes • wildlife • non-target plants • sensitive crops/areas • hedgerows • housing • public access • other risks particular to the site
2.2	Explain how to minimise risks to the environment	May include the following: • use of an appropriate pesticide • careful timing of application • check and maintain application rate • avoid spray drift • observe buffer zones • erect warning signs • notify neighbours before application Minimising off target application and spray drift • avoidance of contamination to people and the environment Check wind speed and direction: • use of anemometer at suitable height or visible signs • wind direction Factors that affect spray drift: • wind speed and direction • nozzle type and size • pressure • forward speed • nozzle height • defective equipment
3.1	Read product information	May include the following:

- 3.2	Interpret product information	• product name • active substance(s) (ingredient(s)) • suitability for electrostatic applications Important information: • 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 Crop specific information: • crop/target • dose rate • water volume • timing Mixing and spraying: • filling • reduced volume applications (if applicable) • recommended nozzles • recommended pressure • spray quality • additional label information • compatibility
4.1	Identify sprayer components and controls	May include: • main spray tank • pump • pulsation damper • filling control and devices • agitation control • pressure adjustment control • pressure gauge • on/off control • boom isolators • boom section pressure compensation controls • filters • tank wash system • clean water tank(s) • nozzles/atomisers • diaphragm check valves • tank drain • earthing system

		• other components/controls specific to the applicator Nozzle types • flat fan – fine/medium/coarse spray • air inclusion – medium/coarse spray, low-drift • cone – fine spray good coverage
4.2	Carry out pre use checks to the prime mover	May include: • 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
4.3	Carry out pre-use and operational checks to the sprayer	May include all/some of the following as applicable to the sprayer: Possible mechanical & electrical defects • seized, worn or damaged controls/components • integrity of electrostatic circuitry Sprayer lubrication: • identification of lubrication points • visual inspection of lubrication points • visual inspection of oil levels Security of attachment • fasteners tight • straps inspected and adjusted if necessary • linkage secure • sideways movement restricted • drawbar pin secured Boom settings, suspension and break-back devices: • safe unfolding of booms to avoid personal contamination and contact with Over Head Power Lines (OHPL) and any other overhead hazards • boom suspension operational • parallel linkage operational • break-back efficiency • height adjustment Remove, clean & refit a filter • remove & clean using appropriate method • contain spillage

		• check for defects • replace if worn/damaged • refit Remove, clean/replace & refit a nozzle • remove & clean using appropriate method • contain spillage • check for defects • replace if worn/damaged • refit Part fill sprayer • suitable site selected • fill by usual on-site method, following approved procedure • clean water supply Check for leaks/spray patterns: • use higher than normal operating pressure • visual check of all nozzles for correct spray patterns • absence of blockages, streaking, pulsing & correct alignment • replace defective nozzles/diaphragm check valves • electrostatic feature operational Use of control panel may include: • functions of control panel • recognition of malfunctions before and during operation • check accuracy of calibration • switch to manual/test mode where applicable Action in event of control panel failing: • stop pesticide operation • manual operation of controls if possible
4.4	Calibrate the application equipment and record relevant data	Calibration may include the following: • select suitable forward speed for crop & ground conditions • appropriate gear selected and engine speed established • accurate measurement of distance • accurate measurement of time taken to cover distance • correct use of formula to determine forward speed Output/volume rate • correct use of formula Selection of nozzle: • use of manufacturer's/operator's handbook • use of nozzle manufacturer's literature

		• confirm requirements of product label Set operating pressure • pressure as determined from nozzle chart • pressurise/purge appropriate to the system Nozzle outputs • electrostatic system disabled • use measuring jug to check output from at least one nozzle per boom section • compare with target output • vary pressure to make small adjustments • change nozzles if required Calibration data may include: • registration number of vehicle • tyre size & pressure • gear selected • engine speed • forward speed • application volume • nozzle fitted • operation pressure • flow rate
4.5	Calculate the quantities of pesticide and water required for a specified operation	May include: • amount of water required for specified area • amount of pesticide required for specified area • amount of pesticide required for full tank
5.1	Measure the required quantities and add to sprayer	To include all of the following: • correct selection and use of PPE/RPE (as required by the product label, COSHH/Risk Assessment) • suitable site selected • fill following product recommendations and approved procedures • correct use of water supply • accurate measurement of water • accurate measurement of pesticide • avoidance of spillage • observance of pesticide manufacturer's instructions for mixing & agitation
5.2	Demonstrate safe and accurate application procedures	Methods to achieve accurate application May include any of the following: • tramlines • crop rows • blob markers • marker poles • use of GPS

		Procedure to refill applicator part way through application: • avoid contact with contaminated crop • mark the spot at which the sprayer emptied • refill sprayer • continue spraying by accurately matching at the appropriate point Procedure when nozzle/restrictor becomes blocked during an application • select and use appropriate PPE/RPE • care not to walk in contaminated crop • clean or replace nozzle as appropriate Demonstrate safe and accurate application procedures to include: • ensure boom is level or aligned to the target • correct boom height according to the target and type of nozzle • treatment area clearly identified • constant speed maintained • accurate switch on/off points • accurate matching of bouts • obstacles dealt with correctly (if applicable) • area treated minimising overlaps and misses • awareness of changing weather conditions and appropriate action taken (if applicable)
5.3	Carry out all activities protecting human health and the environment	To include: • prevention of personal injury and contamination through correct selection and use of PPE/RPE (as required by the product information and/or COSHH/Risk Assessment) • prevention of public/bystander contamination • safe filling procedure • avoidance of spray drift • avoidance of off target application • avoidance of over/under dosing crop/target
5.4	Complete a treatment record	Completion of the treatment record must be: • accurate • legible (if handwritten)
6.1	Explain how to manage surplus pesticide and dispose of waste material	Surplus concentrate pesticide • return to temporary mobile store • return to fixed store Containers: • triple rinsed (if applicable) • placed in secure storage until disposal

		• returned to supplier • collected by a licensed waste disposal contractor Packaging: • thoroughly emptied • placed in secure storage until disposal • collected by a licensed waste disposal contractor Surplus dilute pesticide • back on to target as long as it is below the maximum dose rate • use on another approved crop/target • treated by specialist treatment facility on site (e.g. a lined bio bed) • collected by a licensed waste disposal contractor
6.2	Explain how to clean and decontaminate the applicator and prime mover (if applicable)	May include: • select and use correct PPE/RPE • selection of an appropriate site for cleaning the application equipment • triple rinse the applicator following product information recommendations • through flushing of system • safe disposal of contaminated washings in an appropriate manner following good practice • safe procedures followed
6.3	Describe the storage requirements for the sprayer	May include: • ensure the application equipment is clean and dry • inspect for wear or damage • repair or notify supervisor if not within operators level of responsibility and ability • lubricate if required • frost protection measures implemented • store in a secure area • isolation of any electrical controls/components • store under cover and out of direct sunlight

Unit 278 Operation of pesticide applicators attached to cultivating or planting equipment

Activity number and description from check list		Assessment criteria
1.1	Describe the legal requirements relating to applying pesticides using equipment attached to cultivators or planters	May include: • 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 equipment attached to cultivators or planters following industry best practice	Operator safety regulation may include: • 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 Sealed cab: Checks to protect self from pesticide contamination: • 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 pressurised components within confines of cab Open cab/canopy/platform: • use of appropriate PPE • awareness of the siting of pressurised • components within confines of cab/canopy/platform Checks to protect self from physical danger during operation: • compatibility of prime mover and sprayer • front weights • wheel track width • correct tyre pressures • condition of tyres • brake function

		Safe practice when driving on uneven/sloping terrain: • assess conditions • 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
2.1	Identify risks to the environment	May include the following: • water courses • ground conditions • drains • boreholes • wildlife • non-target plants • sensitive crops/areas • housing • public/co-worker access • environmental margins/strips/areas • other risks specific to the site
2.2	Explain how to minimise risks to the environment	May include the following: • use of appropriate pesticides • careful timing of application • check and maintain application rate • avoid spray drift • observe buffer zones • erect warning signs • notify neighbours before application Check wind speed and direction: • use of anemometer at suitable height or visible signs • wind direction Minimising off target application and spray drift • avoidance of contamination to people and the environment Factors that affect target application: • wind speed and direction • nozzle type and size • pressure • forward speed • nozzle height • defective delivery mechanisms
3.1	Read product information	May include the following: • product name

3.2	Interpret product information	• active substance(s) (ingredient(s)) Important information: • 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 Crop specific information: • crop/target • dose rate • water volume (if applicable) • timing Mixing and spraying: • filling • reduced volume applications (if applicable) • recommended nozzles • recommended pressure • spray quality • recommended aperture settings • soil incorporation requirements • additional label information • compatibility
4.1	Identify applicator components and controls	May include: • tank/hopper • lid • filters • pipe work • connections • filling controls and devices • pressure adjustment control • pressure gauge • diaphragm check valves • tank wash system • clean water tank(s) • seals • pump • mechanical/electrical controls • nozzles/delivery mechanisms • aperture controls
4.2	Carry out pre use and operational checks to the prime mover	May include: • visual inspection of the wheels & tyres

		• tyre pressures • fuel level adequate • engine oil within acceptable limits • hydraulic oil within acceptable limits (if accessible) • transmission oil level within acceptable limits (if accessible) • coolant level is adequate • engine air filter is clean
4.3	Carry out pre-use checks to the applicator(s)	May include all/some of the following as applicable to the application equipment: Possible mechanical defects • seized, worn or damaged controls/components Applicator lubrication: • identification of lubrication points • visual inspection of lubrication points • visual inspection of oil levels Security of attachment • fasteners tight • linkage secure • sideways movement restricted • drawbar pin secured Remove, clean & refit a filter • remove & clean using appropriate method • contain spillage • check for defects • refit Part fill tank/hoppers • suitable site selected • fill by usual on-site method, following approved procedures • clean water supply Use of control panel may include: • functions of control panel • recognition of malfunctions before and during operation • check accuracy of calibration • switch to manual/test mode where applicable Action in event of control panel failing: • stop pesticide application • manual operation of controls if possible
4.4	Calibrate the application equipment and record relevant data	Calibration may include the following: Select & record forward speed • select suitable forward speed for crop & ground conditions

		• appropriate gear selected and engine speed established • accurate measurement of distance • accurate measurement of time taken to cover distance • correct use of formula to determine forward speed Calculate required outputs • correct use of formula Appropriate nozzle • use of manufacturer's/operator's handbooks • use of nozzle manufacturer's literature • confirm requirements of product label Operating pressure • pressure as determined from nozzle chart • pressurise/purge appropriate to the system Nozzle outputs • use measuring jug to check liquid outputs • use weighing equipment to check powder/granule outputs • compare with target outputs • vary settings to make appropriate adjustments Calibration data may include: • registration number of prime mover • tyre size & pressure • gear selected • engine speed • forward speed • applicator settings • flow rate
5.1	Measure the required quantities of pesticide and add to the applicator(s)	To include all of the following: • correct selection and use of PPE/RPE (as required by the product label, COSHH/Risk Assessment) • suitable site selected • fill following product recommendations and approved procedures • correct use of water supply • accurate measurement of water • accurate measurement/weighing of pesticide • avoidance of spillage • observance of pesticide manufacturer's

		instructions for mixing and agitation (if applicable)
5.2	Demonstrate safe and accurate application procedures	Methods to achieve accurate application May include any of the following: • crop rows • marker poles • use of GPS Procedure to refill applicator part way through application: • avoid contact with contaminated crop • mark the spot at which the tank/hopper emptied • refill tank/hopper • continue application by accurately matching at the appropriate point Demonstrate safe and accurate application procedures to include: • constant speed maintained • accurate switch on/off points • accurate matching of bouts • obstacles dealt with correctly (if applicable) • area treated minimising overlaps and misses • awareness of changing weather conditions and appropriate action taken (if applicable)
5.3	Carry out all activities protecting human health and the environment	To include: • prevention of personal injury and contamination through correct selection and use of PPE/RPE (as required by the product information and/or COSHH/Risk Assessment) • prevention of public/bystander contamination • safe filling procedure • avoidance of spray drift • avoidance of off target application • avoidance of over/under dosing crop/target
5.4	Complete a treatment record	Completion of the treatment record must be: • accurate • legible (if handwritten)
6.1	Explain how to manage surplus pesticide(s) and dispose of waste material	Surplus concentrate pesticide • return to temporary mobile store • return to fixed store Containers: • triple rinsed (if applicable)

		• placed in secure storage until disposal • returned to supplier • collected by a licensed waste disposal contractor Packaging: • thoroughly emptied • placed in secure storage until disposal • collected by a licensed waste disposal contractor Surplus dilute pesticide • use on another approved crop/target • treated by specialist treatment facility on site (e.g. a lined bio bed) • collected by a licensed waste disposal contractor
6.2	Explain how to clean and decontaminate the applicator(s) and prime mover (if applicable)	May include: • select and use correct PPE/RPE • selection of an appropriate site for cleaning the application equipment • triple rinse the liquid applicator following product information recommendations • through flushing of system • safe disposal of contaminated washings in an appropriate manner following good practice • thorough (dry) cleaning of powder/granule mechanisms following product manufacturer's guidelines • safe disposal of contaminated (dry) arisings following product manufacturer's guidelines
6.3	Describe the storage requirements for the applicator(s)	May include: • ensure the application equipment is clean and dry • inspect for wear or damage • repair or notify supervisor if not within operators level of responsibility and ability • lubricate if required • frost protection measures implemented • rust protection applied as appropriate • store in a secure area • isolation of any electrical controls • store under cover and out of direct sunlight

Unit 279 Operation of a sprayer mounted on a train fitted with hydraulic nozzles for applying pesticides

Activity number and description from check list		Assessment criteria
1.1	Describe the legal requirements relating to applying pesticides using rail track application equipment	May include: • all required guards are in place and equipment complies with legal requirements • comply with all relevant trackside safety regulations and protocols • 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 rail track application equipment following industry best practice	Operator safety regulation may include: • comply with Pesticide Codes of Practice • adopt industry best practice • be aware of any safety implications imposed by Risk/COSHH Assessment and comply with the requirements Checks to protect self from physical danger during operation: • trackside safety protocols • safe access from ground level to spraying platform • safe travel along spraying platform
2.1	Identify risks to the environment	May include the following: • water courses • drains • wildlife • viaducts • station platforms • non-target plants • sensitive crops/areas • trackside housing • public/co-worker access • other risks specific to the site
2.2	Explain how to minimise risks to the environment	May include the following: • use of an appropriate pesticide • careful timing of application • check and maintain application rate • avoid spray drift • observe buffer zones Check wind speed and direction:

		• use of anemometer at suitable height or visible signs • wind direction Minimising off target application and spray drift • avoidance of contamination to people and the environment Factors that affect spray drift • wind speed and direction • nozzle type and size • pressure • forward speed • nozzle height & angle • defective equipment
3.1 - 3.2	Read product information Interpret product information	May include the following: • product name • active substance(s) (ingredient(s)) Important information: • 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 Crop specific information: • crop/target • dose rate • water volume • timing Mixing and spraying: • filling • reduced volume applications (if applicable) • recommended nozzles • recommended pressure • spray quality • additional label information • compatibility
4.1	Identify sprayer components and controls	May include: • tank(s) • transfer systems • filters • pipe work • connections

		• filling controls and devices • pressure adjustment control • pressure gauge • clean water tank • seals • pumps • mechanical/electrical controls Nozzle types • flat fan – standard boom nozzle • radial – standard spray train nozzle • extended reach nozzle
4.2	Carry out pre-use and operational checks to the sprayer	May include all/some of the following as applicable to the sprayer: Possible mechanical defects • seized, worn or damaged controls/components Sprayer lubrication: • identification of lubrication points • visual inspection of lubrication points • visual inspection of oil levels (if applicable) Security of attachment • fasteners tight • linkage secure (if applicable) Boom settings, suspension and break-back devices: • boom suspension operational • break-back efficiency • height adjustment Remove, clean & refit a filter • remove & clean using appropriate method • contain spillage • check for defects • refit Remove, clean/replace & refit a nozzle • remove & clean using appropriate method • contain spillage • check for defects • replace if worn/damaged • refit Part fill sprayer • suitable site selected • fill by usual on-site method, following approved procedure • clean water supply

		Check for leaks/spray patterns: • use higher than normal operating pressure • visual check of all nozzles for correct spray patterns • absence of blockages, streaking, pulsing & correct alignment • replace defective nozzles/diaphragm check valves Use of control panel may include: • functions of control panel • recognition of malfunctions before and during operation • check accuracy of calibration • switch to manual/test mode where applicable Action in event of control panel failing: • stop pesticide operation • manual operation of controls if possible
4.3	Calibrate the sprayer and record relevant data	Calibration may include the following: Select & record forward speed • request suitable forward speed • accurate measurement of distance • accurate measurement of time taken to cover distance • correct use of formula to determine forward speed Output/volume rate • correct use of formula Appropriate nozzle • use of manufacturer's operators handbook • use of nozzle manufacturer's literature • confirm requirements of product label Operating pressure • pressure as determined from nozzle chart • pressurise/purge appropriate to the system Nozzle outputs • use measuring jug to check output from at least one nozzle • compare with target output • vary pressure to make small adjustments • change nozzles if required Calibration data may include: • identification number of spray train • forward speed

		• application volume • nozzle fitted • operation pressure • flow rate
4.4	Calculate the quantities of pesticide and water required for a specified operation	May include: • amount of pesticide required for specified area • amount of water required for specified area • amount of pesticide required for full tank
5.1	Determine that there are sufficient quantities of water and pesticide on board for the task	To include all of the following: • correct selection and use of PPE (as required by the product label, COSHH/Risk Assessment) • suitable site selected • fill following product recommendations and approved procedures • correct use of water supply • accurate measurement of water • accurate measurement of pesticide • avoidance of spillage • observance of pesticide manufacturer's instructions for mixing and agitation
5.2	Demonstrate safe and accurate application procedures	Methods to achieve accurate application May include any of the following: • track markers • use of GPS Procedure to refill applicator part way through application: • avoid contact with contaminated target • mark the spot at which the sprayer emptied • refill sprayer • continue spraying by accurately matching at the appropriate point Procedure when nozzle/restrictor becomes blocked during an application • select and use appropriate PPE • care not to walk in contaminated target • clean or replace nozzle as appropriate Demonstrate safe and accurate application procedures to include: • correct boom height and attitude according to the target and type of nozzle • treatment area clearly identified • constant speed maintained • accurate switch on/off points

		• obstacles dealt with correctly (if applicable) • awareness of changing climatic conditions and appropriate action taken (if applicable)
5.3	Carry out all activities protecting human health and the environment	To include: • prevention of personal injury and contamination through correct selection and use of PPE (as required by the product information and/or COSHH/Risk Assessment) • prevention of public / bystander contamination • safe filling procedure • avoidance of off target application • avoidance of over/under dosing target
5.4	Complete a treatment record	Completion of the treatment record must be: • accurate • legible (if handwritten)
6.1	Explain how to manage surplus pesticide and dispose of waste material	Surplus concentrate pesticide • return to temporary mobile store • return to fixed store Containers: • triple rinsed (if applicable) • placed in secure storage until disposal • returned to supplier • collected by a licensed waste disposal contractor Packaging: • thoroughly emptied • placed in secure storage until disposal • collected by a licensed waste disposal contractor Surplus dilute pesticide • back on to target as long as it is below the maximum dose rate • use on another approved target • collected by a licensed waste disposal contractor
6.2	Explain how to clean and decontaminate the applicator and prime mover (if applicable)	May include: • select and use correct PPE • selection of an appropriate site for cleaning the application equipment • triple rinse the applicator following product information recommendations • through flushing of system

		• safe disposal of contaminated washings in an appropriate manner following good practice • safe procedures followed
6.3	Describe the storage requirements for the applicator	May include: • de-commissioning • ensure the application equipment is clean and dry • inspect for wear or damage • repair or notify supervisor if not within operators level of responsibility and ability • lubricate if required • frost protection measures implemented • store in a secure area

Unit 280 Operation of a bankside sprayer mounted on a train fitted with hydraulic nozzles for applying pesticides

Activity number and description from check list		Assessment criteria
1.1	Describe the legal requirements relating to applying pesticides using rail track bankside application equipment	May include: • all required guards are in place and equipment complies with legal requirements • comply with all relevant trackside safety regulations and protocols • 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 rail track bankside application equipment following industry best practice	Operator safety regulation may include: • 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 Checks to protect self from physical danger during operation: • trackside safety protocols • safe access from ground level to spraying platform • safe travel along spraying platform
2.1	Identify risks to the environment	May include the following: • water courses • drains • wildlife • viaducts • station platforms • non-target plants • sensitive crops/areas • trackside housing • public/co-worker access • other risks specific to the site
2.2	Explain how to minimise risks to the environment	May include the following: • use of an appropriate pesticide • careful timing of application • check and maintain application rate • avoid spray drift • observe buffer zones Check wind speed and direction:

		• use of anemometer at suitable height or visible signs • wind direction Minimising off target application and spray drift • avoidance of contamination to people and the environment Factors that affect spray drift • wind speed and direction • nozzle type and size • pressure • forward speed • nozzle height & angle • defective equipment
3.1 - 3.2	Read product information Interpret product information	May include the following: • product name • active substance(s) (ingredient(s)) Important information: • 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 Crop specific information: • crop/target • dose rate • water volume • timing Mixing and spraying: • filling • reduced volume applications (if applicable) • recommended nozzles • recommended pressure • spray quality • additional label information • compatibility
4.1	Identify sprayer components and controls	May include: • tank(s) • transfer systems • filters • pipe work • connections

		• filling controls and devices • pressure adjustment control • pressure gauge • clean water tank • operating pod • nozzle directional controls • seals • pumps • mechanical/electrical controls Nozzle types • flat fan – standard boom nozzle • radial – standard spray train nozzle • extended reach nozzle
4.2	Carry out pre-use and operational checks to the sprayer	May include all/some of the following as applicable to the sprayer: Possible mechanical defects • seized, worn or damaged controls/components Sprayer lubrication • identification of lubrication points • visual inspection of lubrication points • visual inspection of oil levels (if applicable) Security of attachment • fasteners tight • linkage secure (if applicable) Directional controls • free movement throughout range of operation Remove, clean & refit a filter • remove & clean using appropriate method • contain spillage • check for defects • refit Remove, clean/replace & refit a nozzle • remove & clean using appropriate method • contain spillage • check for defects • replace if worn/damaged • refit Part fill sprayer • suitable site selected • fill by usual on-site method, following approved procedure • clean water supply

		Check for leaks/spray patterns: • use higher than normal operating pressure • visual check of all nozzles for correct spray patterns • absence of blockages, streaking, pulsing and correct alignment • replace defective nozzles Use of control panel may include: • functions of control panel • recognition of malfunctions before and during operation • check accuracy of calibration • switch to manual/test mode where applicable Action in event of control panel failing: • stop pesticide operation • manual operation of controls if possible
4.3	Calibrate the sprayer and record relevant data	Calibration may include the following: Select & record forward speed • request suitable forward speed • accurate measurement of distance • accurate measurement of time taken to cover distance • correct use of formula to determine forward speed Output/volume rate • correct use of formula Appropriate nozzle • use of manufacturer's operators handbook • use of nozzle manufacturer's literature • confirm requirements of product label Operating pressure • pressure as determined from nozzle chart • pressurise/purge appropriate to the system Nozzle outputs • use measuring jug to check output from at least one nozzle • compare with target output • vary pressure to make small adjustments • change nozzles if required Calibration data may include: • identification number of spray train • forward speed

		• application volume • nozzle fitted • operation pressure • flow rate
4.4	Calculate the quantities of pesticide and water required for a specified operation	May include: • amount of water required for specified area • amount of pesticide required for specified area • amount of pesticide required for full tank
5.1	Determine that there are sufficient quantities of water and pesticide on board for the task	To include all of the following: • correct selection and use of PPE (as required by the product label, COSHH/Risk Assessment) • suitable site selected • fill following product recommendations and approved procedures • correct use of water supply • accurate measurement of water • accurate measurement of pesticide • avoidance of spillage • observance of pesticide manufacturer's instructions for mixing and agitation
5.2	Demonstrate safe and accurate application procedures	Methods to achieve accurate application May include any of the following: • track markers • use of GPS Procedure to refill applicator part way through application: • avoid contact with contaminated target • mark the spot at which the sprayer emptied • refill sprayer • continue spraying by accurately matching at the appropriate point Procedure when nozzle/restrictor becomes blocked during an application • select and use appropriate PPE • care not to walk in contaminated target • clean or replace nozzle as appropriate Demonstrate safe and accurate application procedures to include: • correct angle/alignment according to the target and type of nozzle • treatment area clearly identified • constant speed maintained • accurate switch on/off points

		• obstacles dealt with correctly (if applicable) • awareness of changing weather conditions and appropriate action taken (if applicable)
5.3	Carry out all activities protecting human health and the environment	To include: • prevention of personal injury and contamination through correct selection and use of PPE (as required by the product information and/or COSHH/Risk Assessment) • prevention of public/bystander contamination • safe filling procedure • avoidance of spray drift • avoidance of off target application • avoidance of under/over dosing target
5.4	Complete a treatment record	Completion of the treatment record must be: • accurate • legible (if handwritten)
6.1	Explain how to manage surplus pesticide and dispose of waste material	Surplus concentrate pesticide • return to temporary mobile store • return to fixed store Containers: • triple rinsed (if applicable) • placed in secure storage until disposal • returned to supplier • collected by a licensed waste disposal contractor Packaging: • thoroughly emptied • placed in secure storage until disposal • collected by a licensed waste disposal contractor Surplus dilute pesticide • back on to target as long as it is below the maximum dose rate • use on another approved target • collected by a licensed waste disposal contractor
6.2	Explain how to clean and decontaminate the applicator and prime mover (if applicable)	May include: • select and use correct PPE • selection of an appropriate site for cleaning the application equipment • triple rinse the applicator following product information recommendations • through flushing of system

		• safe disposal of contaminated washings in an appropriate manner following good practice • safe procedures followed
6.3	Describe the storage requirements for the applicator	May include: • de-commissioning • ensure the application equipment is clean and dry • inspect for wear or damage • repair or notify supervisor if not within operators level of responsibility and ability • lubricate if required • frost protection measures implemented • store in a secure area

Unit 281 Operating 'any other' equipment for applying pesticides

Activity number and description from check list		Assessment criteria
1.1	Describe the legal requirements relating to applying pesticides using selected application equipment	May include: • all required guards are in place and equipment complies with legal requirements • 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 selected application equipment following industry best practice	May include: • 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
2.1	Identify risks to the environment	May include: • ground conditions • water courses • drains • boreholes • wildlife • non-target plants • sensitive crops/areas • hedgerows • housing • public access • other risks particular to the site
2.2	Explain how to minimise risks to the environment	Explanation may include the following points: • check and maintain application rate • avoid spray drift • avoid off target application • observe buffer zones • comply with LERAP requirements • inform neighbours • erect warning signs • use an appropriate pesticide (minimal environmental impact) • appropriate timing of application • operate within any temperature parameters Minimising spray drift or off target application • avoidance of contamination to people and the environment

		Check wind speed and direction: • use of anemometer at suitable height or visible signs • wind direction Factors that affect spray drift • wind speed and direction • nozzle type and size • pressure • forward speed • nozzle height • defective equipment • suction effect of wind
3.1 - 3.2	Read product information Interpret product information	May include the following: • product name • active substance(s) (ingredient(s)) Important information: • 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 Crop specific information: • crop/target • dose rate • water volume • timing Mixing and spraying: • filling • reduced volume applications (if applicable) • recommended nozzles • recommended pressure • spray quality • additional label information • compatibility
4.1	Identify the components & controls on the equipment	May include: • tank • lid • filters • pipe work • pump • pressure control

		• nozzles • pressure gauge • connections • seals • metering devices • mechanical/electrical controls • programming controls Nozzle types • flat fan – fine/medium/coarse spray • air inclusion – medium/coarse spray, low-drift • cone – fine spray, good coverage
4.2	Carry out pre use checks to the prime mover (if applicable)	May include: • integrity of power source • fluid levels • fail-safe systems
4.3	Carry out pre-use checks to the selected application equipment	May include: • metering & delivery systems • drive systems • condition & tension of belts Security of attachment • boom suspension/break-back devices (if applicable) • security of attachment to prime mover • lubrication of components • checking for leaks under pressure • any problems identified to be rectified if within operators level of responsibility and ability
4.4	Calibrate the selected application equipment and record relevant data	May include: • accurate measurements • accurate timings • accurate calculations • correct use of formulae Calibration data may include: • equipment settings used • product used for calibration • application rate achieved
4.5	Measure the area/volume to be treated	Must include: • accurate measurements
4.6	Calculate the area/ volume to be treated	Must include: • accurate calculations
4.7	Calculate the quantities of pesticide and water required for a specified area/volume	May include: • amount of water required for specified area/volume

		• amount of pesticide required for specified area/volume
5.1	Measure the required quantities and add to the selected applicator	To include all of the following: • correct selection and use of PPE/RPE (as required by the product label, COSHH/Risk Assessment) • suitable site selected • fill following product recommendations and approved procedures • correct use of water supply • accurate measurement of water • accurate measurement of pesticide • avoidance of spillage or • attach pesticide container
5.2	Demonstrate safe and accurate application procedures	To include: • treatment area clearly identified • constant speed maintained • accurate switch on/off points • accurate matching of bouts (if applicable) • obstacles dealt with correctly (if applicable) • area/volume treated minimising overlaps and misses (if applicable) • awareness of changing climatic conditions and appropriate action taken (if applicable)
5.3	Carry out all activities protecting human health and the environment	To include: • prevention of personal injury and contamination through correct selection and use of PPE/RPE (as required by the product information and/or COSHH/Risk Assessment) • prevention of public/bystander contamination • safe filling procedure • avoidance of spray drift • avoidance of off target application • avoidance of over/under dosing crop/target/plant material
5.4	Complete a treatment record	Completion of the treatment record must be: • accurate • legible (if handwritten)
6.1	Explain how to manage surplus pesticide and dispose of waste material	Surplus concentrate pesticide • return to temporary mobile store • return to fixed store Containers: • triple rinsed

		• placed in secure storage until disposal • returned to supplier • collected by a licensed waste disposal contractor Packaging: • thoroughly emptied • placed in secure storage until disposal • collected by a licensed waste disposal contractor Surplus dilute pesticides • back on to target as long as it is below the maximum dose rate • use on another approved crop/target • treated by specialist treatment facility on site (e.g. a lined bio bed) • collected by a licensed waste disposal contractor
6.2	Explain how to clean and decontaminate the selected application equipment	May include: • select and use correct PPE/RPE • selection of an appropriate site for cleaning the application equipment • triple rinse the applicator following product information recommendations • through flushing of system • safe disposal of contaminated washings in an appropriate manner following good practice • safe procedures followed
6.3	Describe the storage requirements for the selected application equipment	May include: • de-pressurisation • ensure the application equipment is clean and dry • inspect for wear or damage • repair or notify supervisor if not within operators level of responsibility and ability • lubricate if required • frost protection measures implemented • nozzles and filters removed prior to freezing conditions • store in a secure area • isolation of any electrical controls • store under cover and out of direct sunlight

Appendix 1 Practical table

Unit 276 Operating automated equipment for applying pesticides

All criteria must be achieved.

Activity number and description	Achieved
1.1 Describe the legal requirements relating to applying pesticides using automated or robotic equipment	
1.2 Describe how to apply pesticides safely using automated or robotic 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 Identify the components & controls on the equipment	
4.2 Carry out pre use checks to the prime mover (if applicable)	
4.3 Carry out pre-use checks to the application equipment	
4.4 Calibrate the application equipment and record relevant data	
4.5 Measure the area to be treated	
4.6 Calculate the area to be treated	
4.7 Calculate the quantities of pesticide and water required 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 application equipment	
6.3 Describe the storage requirements for the application equipment	

Unit 277 Operation of mounted, trailed or self-propelled electrostatic charged sprayers for applying pesticides to crops

All criteria must be achieved.

Activity number and description	Achieved
1.1 Describe the legal requirements relating to applying pesticides using electrostatic equipment	
1.2 Describe how to apply pesticides safely using electrostatic 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 Identify sprayer components and controls	
4.2 Carry out pre use checks to the prime mover	
4.3 Carry out pre-use and operational checks to the sprayer	
4.4 Calibrate the application equipment and record relevant data	
4.5 Calculate the quantities of pesticide and water required for a specified operation	
5.1 Measure the required quantities and add to sprayer	
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 and prime mover (if applicable)	
6.3 Describe the storage requirements for the sprayer	

Unit 278 Operation of pesticide applicators attached to cultivating or planting equipment

All criteria must be achieved.

Activity number and description	Achieved
1.1 Describe the legal requirements relating to applying pesticides using equipment attached to cultivators or planters	
1.2 Describe how to apply pesticides safely using equipment attached to cultivators or planters 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 Identify applicator components and controls	
4.2 Carry out pre use and operational checks to the prime mover	
4.3 Carry out pre-use checks to the applicator(s)	
4.4 Calibrate the application equipment and record relevant data	
5.1 Measure the required quantities of pesticide and add to the applicator(s)	
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(s) and dispose of waste material	
6.2 Explain how to clean and decontaminate the applicator(s) and prime mover (if applicable)	
6.3 Describe the storage requirements for the applicator(s)	

Unit 279 Operation of a sprayer mounted on a train fitted with hydraulic nozzles for applying pesticides

All criteria must be achieved.

Activity number and description	Achieved
1.1 Describe the legal requirements relating to applying pesticides using rail track application equipment	
1.2 Describe how to apply pesticides safely using rail track application 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 Identify sprayer components and controls	
4.2 Carry out pre-use and operational checks to the sprayer	
4.3 Calibrate the sprayer and record relevant data	
4.4 Calculate the quantities of pesticide and water required for a specified operation	
5.1 Determine that there are sufficient quantities of water and pesticide on board for the task	
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 and prime mover (if applicable)	
6.3 Describe the storage requirements for the applicator	

Unit 280 Operation of a bankside sprayer mounted on a train fitted with hydraulic nozzles for applying pesticides

All criteria must be achieved.

Activity number and description	Achieved
1.1 Describe the legal requirements relating to applying pesticides using rail track bankside application equipment	
1.2 Describe how to apply pesticides safely using rail track bankside application 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 Identify sprayer components and controls	
4.2 Carry out pre-use and operational checks to the sprayer	
4.3 Calibrate the sprayer and record relevant data	
4.4 Calculate the quantities of pesticide and water required for a specified operation	
5.1 Determine that there are sufficient quantities of water and pesticide on board for the task	
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 and prime mover (if applicable)	
6.3 Describe the storage requirements for the applicator	

Unit 281 Operating 'any other' equipment for applying pesticides

All criteria must be achieved.

Activity number and description	Achieved
1.1 Describe the legal requirements relating to applying pesticides using selected application equipment	
1.2 Describe how to apply pesticides safely using selected application 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 Identify the components & controls on the equipment	
4.2 Carry out pre use checks to the prime mover (if applicable)	
4.3 Carry out pre-use checks to the selected application equipment	
4.4 Calibrate the selected application equipment and record relevant data	
4.5 Measure the area/volume to be treated	
4.6 Calculate the area/ volume to be treated	
4.7 Calculate the quantities of pesticide and water required for a specified area/volume	
5.1 Measure the required quantities and add to the selected applicator	
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 selected application equipment	
6.3 Describe the storage requirements for the selected application equipment	

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.

We partner with our customers to deliver work-based learning programmes that build competency to support better prospects for people, organisations and wider society. We create flexible learning pathways that support lifelong employability because we believe that people deserve the opportunity to (re)train and (re)learn again and again – gaining new skills at every stage of life, regardless of where they start.

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City & Guilds
Giltspur House
5–6 Giltspur Street
London
EC1A 9DE

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