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ABBEY PARK, STARETON, WARWICKSHIRE, CV8 2LY
Tel: 024 7685 7300 Fax: 024 7669 6128 Email: information@nptc.org.uk

NPTC LEVEL 2 AWARD IN THE SAFE USE OF PESTICIDES (QCF)

UNIT PA7 - AERIAL APPLICATION - PILOTS

ASSESSMENT SCHEDULE

Unit PA7 AERIAL APPLICATION - PILOT
Application of pesticides from aircraft

Objectives – the candidate will be able to:

1. Identify those **key** aspects of legislation which apply to the use of pesticides.
2. Use the information detailed on product labels to determine the approved uses for the product and its potential hazards to human safety, non-target areas and the environment in general.
3. Identify the precautions necessary to use a product safely.
4. Identify, select and understand the maintenance and storage of the correct personal protective equipment for use with a particular product as determined by a label and/or COSHH risk assessment.
5. Understand the correct procedures for the storage of pesticides and for the disposal of empty pesticide containers, surplus pesticide and washings.
6. Follow appropriate personal hygiene procedures to prevent personal contamination.
7. Follow the appropriate procedures for dealing with accidental contamination both personal and environmental.
8. Understand the situations where pesticide application may pose a risk to people or the environment.
9. Understand the records that must be kept.
10. Prepare an aircraft sprayer for work, calibrate and operate it to ensure correct application rates without risk to themselves other people and the environment.
11. Carry out daily routine maintenance on an aircraft sprayer.
12. Carry out the correct procedure for cleaning personal protective equipment and application equipment which may have been contaminated with pesticide.

There are a number of methods of calibration which the candidates may use provided that it produces the correct end result.

Qualification and Credit Framework (QCF) – credit value

PA1 has a credit value of 2 credits on the QCF.

Safe Practice:

Operating the aircraft/equipment in such a way as to put the candidate, assessor, equipment or the environment at risk will cause the candidate to be declared not yet competent.

All equipment used must be of the standard required under current Health & Safety legislation.

Candidates must wear personal protective equipment (PPE) appropriate to the risk whenever carrying out work on the aircraft sprayer e.g. checking filters, replacing nozzles etc.

Contaminated PPE should never be taken into aircraft.

In addition, before entering aircraft, any PPE not required by legislation (other than coveralls and wellington boots) should be removed and placed in a suitable enclosed container outside the aircraft.

Pre-requisites

The foundation unit (PA1) is required by candidates before being assessed for this application unit.

Validation of Equipment:

Any type of aircraft sprayer licensed by CAA

Operator's instruction book and calibration charts/calculators should be available for use by the candidate throughout the assessment. Any other relevant literature may also be used.

Candidates who undertake this assessment and are judged 'competent' 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

Site:

Work site with suitable applicator filling/washing facilities (if appropriate) which comply with current environmental best practice and an area to be treated

Suggested facilities and equipment required to run the assessment:

Sprayer and additional equipment

First Aid kit which complies with Health and Safety (First Aid) Regulations 1981

Aircraft matched to the sprayer

Instruction books for sprayer

Washing facilities

Personal Protective Equipment to comply with pesticide label/COSHH risk assessment

Suitable tools

Spare nozzles, filters etc.

Clean product labels or label duplicates appropriate to the candidate.

Clean water supply.

Measuring cylinder

Accurate and suitable measuring jugs.

Appropriate containers

Pocket calculator.

Wind speed gauge.

Nozzle selection literature.

Suitable lubricants.

Appropriate Application Record Sheets

Notes:

Candidates are required to complete all the assessment activities.

Candidates undertaking mixing and loading of pesticide are required to be assessed in PA8

Questions should be related to the background or employment aspirations of the candidate and, where possible, product labels used should be representative of products typically used in that sector of the industry.

Candidates may refer to any appropriate literature during the assessment (including the Assessment Schedule); however, the Assessor will determine whether or not a sufficient standard of knowledge and understanding has been attained.

Candidate must be in possession of a current flying licence (commercial) approved by the CAA

Aircraft or Operating Company must have required licences for spray use.

Assessment Activity	Assessment Criteria
Preparation	
1. Give a safety briefing for a ground crew regarding LZ operation (assessor acting as ground crew)	<ul style="list-style-type: none"> - Loading routine - Hand signals - Site safety - Exclusion of public
2. Locate two application sites from GPS co-ordinates as given, (or grid references), and comment on site suitability/safety, including environmental factors.	<ul style="list-style-type: none"> - Sites accurately identified - Obvious safety hazards identified - Environmental concerns identified - Buffer zones
3. Demonstrate knowledge of clearances required before spraying	<ul style="list-style-type: none"> - Appropriate environmental agency - Local Authority - English Nature - Countryside Council for Wales - Scottish Natural Heritage - Police - Water supply company - National Air Traffic Control
4. Demonstrate knowledge of operation of spray unit	<ul style="list-style-type: none"> - Pump - Pressure regulation - Recirculation system - On/off control & cockpit activation - Filtration - Nozzles - Emergency dump valve
5. Demonstrate knowledge of nozzles & spray quality	<ul style="list-style-type: none"> - Flood jets - Rain drop jets - Rotary atomisers
6. Run up spray unit & test	<ul style="list-style-type: none"> - Check pressure - Check for leaks - Check spray patterns - Anti drip devices working
7. Demonstrate knowledge of load weight requirements	<ul style="list-style-type: none"> - Aircraft lift capacity - Spray Unit weight - Permitted load weight
8. Read & interpret product label (as supplied or approved by assessor)	<ul style="list-style-type: none"> - Field of use - PPE requirements - Specific product precautions - Restrictions on use - Appropriate for crop/target - Dose rate - Volume rate - Maximum number of treatments - Timing
Calibration	
9. Calibrate aircraft sprayer	<ul style="list-style-type: none"> - Forward speed (assumed) - Spraying width - Flow rate

Assessment Activity	Assessment Criteria
Operation	
<p>10. Carry out an environmental risk assessment of the application site</p>	<p>May include:</p> <ul style="list-style-type: none"> - Ground conditions - Water courses - LERAPS/Buffer zones - Drains - Wildlife - Flowering plants - Public access - Sensitive crops/areas - Hedgerows - Housing - Factors particular to the site <ul style="list-style-type: none"> - Visible signs or wind speed gauge at suitable height - Wind direction <ul style="list-style-type: none"> - Check and maintain application rate - Observe buffer zones (LERAPS) - Other environmental margins - Warn neighbours - Use an appropriate pesticide - Incorporate pesticide if required - Careful timing of application - Comply with environmental assessment - Avoid spray drift - Warning signs <ul style="list-style-type: none"> - Awareness of likely effects of drift to crops, people, wildlife and environment <ul style="list-style-type: none"> - Weather conditions - Direction of spraying - Nozzle size and type - Nozzle pressure/disc speed - Balancing flow rate and atomiser speed
<p>11. Measure wind speed and determine wind direction.</p>	<ul style="list-style-type: none"> - Appropriate wind speed meter - Suitable height - Measured at application site
<p>12. Demonstrate knowledge of spraying procedure for difficult areas.</p>	<p>Safe procedure when applying near to:</p> <ul style="list-style-type: none"> • trees • power lines • water • housing • footpaths • livestock • susceptible crops • bees • wildlife habitats • roads • Schools and hospitals
<p>13. Apply to a given area in a safe & appropriate manner</p>	<ul style="list-style-type: none"> - Operate controls to achieve accuracy at start & finish of each run - Accurate matching of bouts - Coping with obstacles e.g. power lines - Awareness of changes in wind speed & direction

Assessment Activity	Assessment Criteria
Post Operation Activities	
14. Demonstrate knowledge of cleaning and decontaminating aircraft and applicator	<ul style="list-style-type: none"> - Appropriate site - Thorough washing with water and additive if recommended - Internal and external surfaces - Use of in-built systems when provided - Safe disposal of tank washings by approved methods - Thorough flushing of systems - When cleaning should take place - Safe procedures should be followed - Safe disposal of surplus dilute pesticide
15. Demonstrate knowledge of procedure in the event of malfunction of the spray unit	<ul style="list-style-type: none"> - Stop spraying - Return to base - Pump mix back into ground unit - Instruct ground crew
16. Complete application record	<ul style="list-style-type: none"> - Records completed - Accurate recording