

Modification history

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 5.0.

AHCNSY3XX	Operate fertigation equipment
Application	<p>This unit of competency describes the skills and knowledge required to prepare, operate and shut down fertigation equipment and report fertigation activities, to deliver fertilisers using an irrigation system.</p> <p>The unit applies to individuals who operate fertigation equipment under broad direction and take responsibility for their own work.</p> <p>No licensing, legislative or certification requirements apply to this unit at the time of publication.</p>
Prerequisite Unit	Nil
Unit Sector	Nursery (NSY)

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare materials and equipment for operation	1.1 Determine work requirements from workplace instructions 1.2 Identify potential hazards and risks and implement safe working practices to manage risks 1.3 Select required tools, equipment and machinery and check for safe operation 1.4 Select, fit, use and maintain personal protective equipment applicable to the task 1.5 Calibrate and connect injection or fertigation equipment 1.6 Calculate fertiliser concentration and mix the solution thoroughly 1.7 Prepare equipment to meet fertigation requirements
2. Operate the fertigation process	2.1 Start up fertigation process according to operation and maintenance manual 2.2 Operate and monitor fertigation process to confirm performance is maintained within specification 2.3 Monitor fertigation equipment to ensure no adverse environmental impact is caused by faulty operation 2.4 Identify, rectify and report out-of-specification equipment performance 2.5 Deliver fertigation requirements 2.6 Put emergency procedures in place for spillage or chemical accidents
3. Shut down fertigation equipment	3.1 Flush injection equipment prior to shut down 3.2 Carry out shut down on fertigation equipment according to operation and maintenance procedure 3.3 Clean and store fertigation equipment according to maintenance procedure 3.4 Collect, treat, dispose or recycle waste generated by both the fertigation process and cleaning procedures
4. Record information	4.1 Record and report environmental hazards of fertigation process 4.2 Record fertiliser application and storage details according to workplace recording procedures 4.3 Record and report fertigation activities

Foundation Skills	
<i>This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.</i>	
Skill	Description
Reading	<ul style="list-style-type: none"> Interpret textual information from a range of sources to identify relevant and key information about workplace operations
Writing	<ul style="list-style-type: none"> Document environmental hazards of fertigation process Document fertiliser application and storage details Use clear language, accurate industry terminology and logical structure to prepare fertigation activity records
Oral communication	<ul style="list-style-type: none"> Use clear language to report out-of-specification equipment performance
Numeracy skills	<ul style="list-style-type: none"> Calculate fertiliser dilution rates

Unit Mapping Information			
Code and title current version	Code and title previous version	Comments	Equivalence status
AHCNSY3XX Operate fertigation equipment Release 1	AHCNSY307 Operate fertigation equipment Release 1	Minor changes to application Major changes to performance criteria Foundation skills added Assessment requirements updated	No equivalent unit

Links
Companion Volumes, including Implementation Guides, are available at VETNet: https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72

TITLE	Assessment requirements for AHCNSY3XX Operate fertigation equipment
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Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has operated fertigation equipment on at least two occasions and has:

- applied workplace health and safety requirements
- selected tools and equipment appropriate to the scope of works
- selected and prepared fertigation materials
- connected and calibrated fertigation and injection equipment
- selected and prepared injection materials
- completed relevant calculations such as dilution rates
- identified injection requirements
- monitored and adjusted the delivery of fertilisers
- implemented routine maintenance and minor repairs of the system
- reported and recorded corrective action
- taken corrective action in response to out-of-specification results or non-compliance
- handled hazardous chemicals safely
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- implemented routine system cleaning requirements
- monitored usage and dilution rates
- removed and disposed of waste material
- recorded fertigation activities.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace requirements applicable to health and safety in the workplace for operating fertigation equipment, including backflow prevention
- purpose and operation of fertigation equipment and instrumentation components
- basic injection equipment operating principles and process control systems where relevant
- procedures for prevention of backflow
- cleaning procedures for fertigation and injection equipment
- the principles and practices of fertigation operation, including:
 - chemical handling techniques for fertiliser, chlorine, acid and cleaning agents
 - safety data sheets (SDS) information for fertiliser to be injected
 - environmental impacts of delivering fertilisers using an irrigation system
- services required
- fertigation and injection equipment operation and maintenance manuals
- process specifications, procedures and operating parameters
- control points and significance and methods of monitoring
- common causes of variation and corrective action required
- environmental issues and controls
- shutdown sequence
- lock-out and tag-out procedures
- workplace fertiliser application and storage, and fertigation activity recording requirements and procedures.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - fertigation and injection equipment operation and maintenance manuals

Assessment Conditions	
<ul style="list-style-type: none">• fertigation and injection tools, equipment and procedures• fertiliser, chlorine, acid and cleaning agents• personal protective equipment applicable to operating fertigation and injection equipment• specifications:<ul style="list-style-type: none">• workplace requirements applicable to health and safety in the workplace and operating fertigation and injection equipment• work instructions and workplace procedures applicable to operating fertigation and injection equipment• SDS for substances being injected• recording procedures• environmental procedures for collection, treatment, disposal or recycling of waste• relationships:<ul style="list-style-type: none">• supervisor• timeframes:<ul style="list-style-type: none">• according to job requirements. <p>Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.</p>	
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