



Australian Government

AHCSDT308 Perform tests for quality on seeds

Release: 1

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Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to perform tests on seeds and grain to determine quality. Tests are performed under laboratory conditions in accordance with industry standards.

The unit applies to individuals who take responsibility for their own work and for the quality of the work of others. They use discretion and judgement in the selection, allocation and use of available resources. All work is carried out to comply with workplace procedures.

Seed to be processed for Certification must be sampled by an Authorised Sampler in accordance with International, Federal and State seed certification regulations.

Pre-requisite Unit

Nil

Unit Sector

Seed Testing (SDT)

Elements and Performance Criteria

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 seed for testing and maintain condition and purity	1.1 Identify purpose of seed tests from work instructions 1.2 Verify authenticity of seed from submitted sample documentation 1.3 Verify submitted seed sample complies with condition specified for seed test and report inconsistencies to supervisor 1.4 Prepare working test sample/s from submitted seed sample according to workplace and laboratory procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.5 Store and maintain condition and quality of seed samples for testing according to seed species, workplace procedures and industry standards 1.6 Implement procedures to prevent contamination of submitted sample and working samples 1.7 Label and record working samples according to workplace and industry standards for traceability
2. Prepare equipment for seed tests	2.1 Select number of replicates for seed test according to specified test procedure and work instructions 2.2 Prepare the required number of replicates according to specific test procedures and industry standards 2.3 Label and store replicates according to workplace procedures and industry standards 2.4 Compile and prepare materials required according to specified seed test procedures 2.5 Select, clean, check and calibrate test equipment according to manufacturer instructions and seed test specifications 2.6 Report and record faults, repairs and calibration of equipment according to workplace procedures 2.7 Identify health and safety hazards, assess risk and implement controls according to workplace procedures
3. Conduct seed tests	3.1 Measure quantities of seed required for each test replicate according to test procedures 3.2 Pre-treat or condition seed replicates ready for testing according to test procedures 3.3 Conduct seed test according to seed test procedures and industry standards 3.4 Maintain conditions to maintain quality and prevent contamination of replicates during testing process 3.5 Update labelling of replicates and records according to workplace and industry standards for traceability
4. Examine and assess tested seed	4.1 Identify endpoint of test and prepare replicates for assessment according to testing procedures 4.2 Examine each replicate and record observations

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	4.3 Assess observations against standards specified in workplace and industry procedures 4.4 Record observations and test results according to workplace and industry procedures
5. Prepare and report test results	5.1 Calculate test results according to workplace procedures and industry standards 5.2 Compile and document test results 5.3 Assess test results against standards and report results according to workplace procedures 5.4 Update records according to workplace and industry standards for traceability
6. Finalise testing procedures	6.1 Dispose of replicates and waste according to testing protocols and workplace waste and biosecurity procedures 6.2 Clean and store test equipment according to workplace procedures

Foundation Skills

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.

Skill	Description
Reading	Interpret seed testing procedures and industry standards to ensure accuracy of tests performed and integrity of test results
Writing	Document test results accurately using industry recognised language and formatting
Numeracy	Perform calculations accurately and according to industry standards for seed testing

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status

AHCSDT308 Perform tests for quality on seeds	AHCSDT303 Perform a fluorescence test on seeds	This unit supersedes the following units: AHCSDT303 Perform a fluorescence test on seeds, AHCSDT304 Perform a seed purity analysis, AHCSDT305 Perform a seed moisture test, AHCSDT306 Perform a seed germination test, AHCSDT307 Perform a 'Determination of Other Seeds by Number' test	Not equivalent
AHCSDT308 Perform tests for quality on seeds	AHCSDT304 Perform a seed purity analysis	This unit supersedes the following units: AHCSDT303 Perform a fluorescence test on seeds, AHCSDT304 Perform a seed purity analysis, AHCSDT305 Perform a seed moisture test, AHCSDT306 Perform a seed germination test, AHCSDT307 Perform a 'Determination of Other Seeds by Number' test	Not equivalent
AHCSDT308 Perform tests for quality on seeds	AHCSDT305 Perform a seed moisture test	This unit supersedes the following units: AHCSDT303 Perform a fluorescence test on seeds, AHCSDT304 Perform a seed purity analysis, AHCSDT305 Perform a seed moisture test, AHCSDT306 Perform a seed germination test, AHCSDT307 Perform a 'Determination of Other Seeds by Number' test	Not equivalent
AHCSDT308 Perform tests for quality on seeds	AHCSDT306 Perform a seed germination test	This unit supersedes the following units: AHCSDT303 Perform a fluorescence test on seeds,	Not equivalent

		AHCSDT304 Perform a seed purity analysis, AHCSDT305 Perform a seed moisture test, AHCSDT306 Perform a seed germination test, AHCSDT307 Perform a 'Determination of Other Seeds by Number' test	
AHCSDT308 Perform tests for quality on seeds	AHCSDT307 Perform a 'Determination of Other Seeds by Number' test	This unit supersedes the following units: AHCSDT303 Perform a fluorescence test on seeds, AHCSDT304 Perform a seed purity analysis, AHCSDT305 Perform a seed moisture test, AHCSDT306 Perform a seed germination test, AHCSDT307 Perform a 'Determination of Other Seeds by Number' test	Not equivalent

Links

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

Assessment Requirements for AHCSDT308 Perform tests for quality on seeds

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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 performed the following tests on seeds:

- seed purity
- germination
- fluorescence
- moisture
- 'Determination of Other Seeds by Number' test
- hybrid vigour

There must also be evidence that the individual has:

- verified compliance of seed sample with documentation, including:
 - seed species/variety
 - seed condition as submitted
 - seed condition suitable for testing
- prepared and stored samples to maintain quality and condition
- selected, prepared and used testing equipment and materials to conduct tests
- selected, and prepared replicates from working samples for testing
- conducted seed tests, examined tested seed, assessed and calculated test results
- maintained accurate labelling and records at each stage of the testing process suitable for traceability according to industry and workplace standards
- cleaned test equipment, laboratory and disposed of waste according to biosecurity and workplace procedures.

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:
- industry and enterprise standard operating procedures (SOPs) for seed tests, including:

- seed purity
- germination
- fluorescence test on seeds
- moisture
- ‘Determination of Other Seeds by Number’ test
- hybrid vigour
- testing equipment, setup, calibration and operation for the different seed tests
- work health, safety and environment requirements
- seed biology and relation to seed quality, condition and seed tests
- the role of the International Seed Testing Association (ISTA) and the ISTA Rules for Seed Testing
- preparing statistically representative replicates by weight or number of seed for testing
- seed sampling methods, including:
 - hand samples
 - mechanical samples
 - authorised sampler and seed certification
- federal and state agencies overseeing seed movement in Australia and sampling and testing standards, including:
 - Australian Quarantine and Inspection Service (AQIS)
 - Organisation for Economic Co-operation and Development (OECD)
 - Association of Official Seed Certifying Agencies (AOSCA)
 - other certification agencies
- assessing seed test results against industry standards and reporting results
- recordkeeping and documentation for traceability and reporting.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in seed testing laboratory or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - seeds of crops or pasture plants
 - tools and equipment to perform all the tests specified in the Performance Evidence
 - personal protective equipment
- specifications:
 - sampled seed documentation
 - workplace policies, procedures, processes and forms for seed testing
 - manufacturer operating instructions for seed sampling and testing equipment
 - specific safety data sheets for reagents used in seed testing

- workplace instructions and industry specifications for seed testing and assessment
- specific seed testing and certification regulations and industry practice
- relationships:
 - supplier of seed for testing
 - supervisor(s)
- timeframes:
 - according to seed testing times specified testing procedures.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

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