



Australian Government

Department of Education, Employment and Workplace Relations

AHCSDT411A Perform a 1000 seed weight test

Release 1

AHCSDT411A Perform a 1000 seed weight test

Modification History

Release	TP Version	Comments
1	AHC10v4	Initial release

Unit Descriptor

This Unit covers determining the weight per 1000 pure seeds from a submitted sample.

Application of the Unit

This Unit applies to senior seed analysts working within enterprise guidelines. In general, they oversee the preparation of samples for testing; conduct and supervise specified tests in accordance with enterprise requirements; interpret and report results; maintain record-keeping systems; and have responsibility for overall laboratory operations, the supervision of staff, and implementation of quality assurance procedures.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Nil.

Employability Skills Information

This Unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a Unit of Competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

- | | |
|---------------------------------------|--|
| 1. Prepare a working sample | 1.1 Pure seed is obtained following a purity analysis or as a representative fraction of a submitted sample.
1.2 Mechanical dividers are used where appropriate.
1.3 Moisture content of working sample is maintained through storage in moisture proof containers prior to counting.
1.4 Labelling and records are completed. |
| 2. Count and weigh seed by machine | 2.1 The entire working sample is put through a counting machine and the total number of seeds indicated is recorded.
2.2 Working sample is weighed to the required number of decimal places. |
| 3. Count and weigh replicates by hand | 3.1 Eight replicates of 100 seeds are counted out randomly from the working sample.
3.2 Each replicate is weighed to the required number of decimal places.
3.3 Weights of each replicate are recorded.
3.4 Variance, standard deviation and coefficient of variance are calculated according to enterprise guidelines.
3.5 Where the coefficient of variance exceeds the prescribed value, a new set of replicates is tested.
3.6 Where the coefficient of variance does not exceed the prescribed value, the average weight of 1000 seed is determined. |
| 4. Report results | 4.1 Results of weight determination is reported under "other determinations" to the prescribed number of decimal places.
4.2 The method used and the result as calculated is reported. |

Required Skills and Knowledge

This section describes the skills and knowledge required for this Unit.

Required skills include:

Ability to:

- prepare working samples
- use mechanical dividers and counting machines
- weigh seed samples
- calculate variance, standard deviation and coefficient of variance
- follow enterprise guidelines and standard operating procedures.

Required knowledge includes:

Knowledge of:

- role of the International Seed Testing Association (ISTA) and the ISTA Rules for Seed Testing
- concepts of metrology
- seed biology
- apparatus for weighing, counting and dividing seed samples
- calculations such as variance, standard deviation and coefficient of variance
- enterprise standard operating procedures (SOPs)
- relevant health, safety and environment requirements.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this Unit	Evidence of the ability to: • prepare and weigh replicates • calculate variance, standard deviation and coefficient of variance • report results.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.
Method of assessment	This Unit should be assessed together with core Units and other Units of Competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency of performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

The range statement relates to the Unit of Competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
<i>Pure seed</i> may include:	seed as defined for a particular species under the International Rules for Seed Testing.
Seed used in the <i>working sample</i> may include:	the entire pure seed fraction of a purity analysis; or pure seed taken from a representative fraction of the submitted sample.

Unit Sector(s)

Seed Testing