

Achievement Standard

Subject Reference	Agricultural and Horticultural Science 2.1		
Title	Carry out an extended practical agricultural or horticultural investigation		
Level	2	Credits	4
		Assessment	Internal
Subfield	Science		
Domain	Agricultural and Horticultural Science		
Status	Registered	Status date	17 November 2011
Planned review date	31 December 2020	Date version published	20 November 2014

This achievement standard involves carrying out an extended agricultural or horticultural investigation.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<ul style="list-style-type: none"> Carry out an extended practical agricultural or horticultural investigation. 	<ul style="list-style-type: none"> Carry out an in-depth extended practical agricultural or horticultural investigation. 	<ul style="list-style-type: none"> Carry out a comprehensive extended practical agricultural or horticultural investigation.

Explanatory Notes

- This achievement standard is derived from *The New Zealand Curriculum*, Learning Media, Ministry of Education, 2007, and is related to the material in the *Teaching and Learning Guide for Agricultural and Horticultural Science*, Ministry of Education, 2011 at <http://seniorsecondary.tki.org.nz>.
- An *extended investigation* is an activity covering the complete process: planning, carrying out, processing data for, interpreting data for, and reporting on an investigation. It involves the collection of primary data over time.

An *extended practical agricultural or horticultural investigation* involves:

- a statement of the purpose – this may be an aim, testable question, prediction, or hypothesis based on a scientific idea
- a method that describes:
 - for a fair test: the independent variable and its range, the measurement of the dependent variable, and the control of some other variables

- for pattern seeking: the data that will be collected, the range of data/samples, and consideration of other factors.
- the recording and processing of data
- a valid conclusion based on the processed data
- identifying and including relevant findings from another source.

An *in-depth extended practical agricultural or horticultural investigation* involves:

- a workable method that describes:
 - for a fair test: a valid range for the independent variable, the valid measurement of the dependent variable, and the control of other variables
 - for pattern seeking: collection of valid data with consideration of factors such as sampling, bias, and/or sources of error
- the recording and processing of data to enable a trend or pattern (or absence) to be determined
- a valid conclusion that links to the purpose of the investigation.
- a discussion of the biological ideas relating to the investigation that is based on the student's findings and those from other source(s).

A *comprehensive extended practical agricultural or horticultural investigation* involves justification of the choices made during the sound investigation, ie evaluating the validity of the method or reliability of the data and explaining the conclusion in terms of the agricultural or horticultural ideas relevant to the investigation.

- 3 Conditions of Assessment related to this achievement standard can be found at <http://ncea.tki.org.nz/Resources-for-Internally-Assessed-Achievement-Standards>.

Replacement Information

This achievement standard replaced AS90450 and unit standard 7080.

Quality Assurance

- 1 Providers and Industry Training Organisations must have been granted consent to assess by NZQA before they can register credits from assessment against achievement standards.
- 2 Organisations with consent to assess and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.

Consent and Moderation Requirements (CMR) reference

0233