

Achievement Standard

Subject Reference	Agricultural and Horticultural Science 3.1		
Title	Carry out an investigation into an aspect of a New Zealand primary product or its production		
Level	3	Credits	4
		Assessment	Internal
Subfield	Science		
Domain	Agricultural and Horticultural Science		
Status	Registered	Status date	4 December 2012
Planned review date	31 December 2016	Date version published	4 December 2012

This achievement standard involves carrying out an investigation into an aspect of a New Zealand primary product or its production.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<ul style="list-style-type: none"> Carry out an investigation into an aspect of a New Zealand primary product or its production. 	<ul style="list-style-type: none"> Carry out an in-depth investigation into an aspect of a New Zealand primary product or its production. 	<ul style="list-style-type: none"> Carry out a comprehensive investigation into an aspect of a New Zealand primary product or its production.

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>.

Investigations are based on Agricultural and Horticultural contexts that are suitable for assessment at Level 8 Nature of Science of *The New Zealand Curriculum*.

- Carry out an investigation* involves:
 - producing a statement of purpose
 - planning the method to be used
 - collecting, recording and processing primary data
 - interpreting findings based on own processed data
 - reporting on the findings and relating them to findings from another source relating to the agricultural or horticultural context
 - providing a valid conclusion(s) that relates to the purpose of the investigation.

Carry out an in-depth investigation involves:

- developing a method that allows for collection of data that is valid and reliable
- providing a valid conclusion(s) that links key agricultural or horticultural concepts to own findings and to those from other source(s).

Carry out a comprehensive investigation involves:

- evaluating the validity of the method and/or reliability of the data and justifying the choices made throughout the 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
- providing a valid conclusion(s) that discusses key agricultural or horticultural concepts and either the findings of others, or scientific principles, theories, or models
- conclusions include proposed courses of action, based on the commercial significance of the findings, which the producer may undertake to achieve a specific outcome relating to the primary product or its production.

- 3 *An aspect of a New Zealand primary product or its production* may include product attributes, site selection, and establishment as well as management practices used in production, until the product leaves the grower's control.
- 4 *A New Zealand primary product* is an agricultural or horticultural product that either earns significant export revenue in unprocessed or processed form, or allows for self-sufficiency within New Zealand.
- 5 *Production* refers to all aspects of primary production under producer control, such as production process, management practices, and product attributes.
- 6 Product attributes are measurable characteristics that affect the marketability of a primary product and may include, fat content, sugar levels, size, mass, diameter, tenderness, shelf life, and yield.
- 7 Management practices may include: fertiliser application, irrigation, pest and/or weed control, pruning, thinning, harvesting, grazing management, dipping, drenching, shearing. Management practices may be manipulated through grower-initiated changes, eg the choice of fertiliser, the rate, method, and/or timing of its application.
- 8 Conditions of Assessment related to this achievement standard can be found at www.tki.org.nz/e/community/ncea/conditions-assessment.php.

Replacement Information

This achievement standard replaced AS90650 and unit standard 7089.

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