

Field Sciences**Review of *Agricultural and Horticultural Science* Level 3 achievement and unit standards****Unit standards**

| Subfield | Domain | ID |
|-----------------|--|-----------|
| Science | Agricultural and Horticultural Science | 7087-7090 |

Achievement standards

| Domain | ID | Subject reference |
|--|-----------|--------------------------|
| Agricultural and Horticultural Science | 90649 | 3.1 |
| | 90650 | 3.2 |
| | 90651 | 3.3 |
| | 90652 | 3.4 |
| | 90653 | 3.5 |

The Ministry of Education and NZQA National Qualifications Services have completed a review of the achievement and unit standards listed above.

New Registration date **December 2012**

Date new versions published **December 2012**

Planned review date **December 2016**

Summary of review and consultation process

In 2008 the Ministry of Education (MoE) and NZQA began to review achievement and unit standards in light of the revised New Zealand Curriculum (NZC). This Alignment of Standards (AoS) review also addressed duplication of outcomes, credit parity, fairness, consistency, and coherence. The AoS review was guided by the revised NZC itself and the Standards Review Guidelines. A copy of the NZC is available at: <http://nzcurriculum.tki.org.nz/Curriculum-documents/The-New-Zealand-Curriculum>.

Teacher subject associations were involved in the review, and draft achievement standards were the focus of wide consultation, especially with secondary schools and teachers. Extensive resources, including student exemplars, were also developed to support these standards, and are available on the MoE and/or the NZQA websites.

The review of unit standards included consultation with tertiary providers to assess continued relevance and likely future use of the standards. Unit standards that duplicate achievement standard outcomes and those without the likelihood of future tertiary use were recommended for expiry.

National consultation was undertaken in 2011, with the results analysed by Research New Zealand. The responses were generally positive.

The review of these Level 3 unit and achievement standards was completed in time for implementation in schools in 2013.

Main changes resulting from the review

- All NZC Level 8 (NZQF Level 3) outcomes derived from the NZC are now assessed using achievement standards, and there are no longer any unit standards linked to the NZC.
- Existing achievement standards were reviewed and new achievement standards were developed to align with the NZC. See [table](#) below.
- Grading criteria for achievement standards were reviewed in accordance with the Standards Review Guidelines.
- Unit standards that recognised similar outcomes as achievement standards were recommended for expiry. See [table](#) below.

For a detailed description of the review of, and the changes to, the *Agricultural and Horticultural Science standards* see the appendix at the end of this report.

Impact on Consent and Moderation Requirements (CMR)

All new achievement standards have been registered on CMR 0233.

Impact of changes on [Exclusions List](#)

For transition purposes, the following exclusions will apply for new achievement standards.

| Achievement standard | Excluded against each of these standards |
|----------------------|--|
| 91528 | 7089, 90650 |
| 91529 | 90649 |
| 91530 | 7087, 90651 |
| 91531 | 7088, 7089, 7090, 90652 |
| 91532 | 90653 |

Review Categories and changes to classification, title, level, and credits

The following summary shows the changes made to the standards as a result of the review. All changes are in **bold**. Where a new or a new version of an externally assessed achievement standard is registered, the following designation appears after the title **[Externally Assessed]**.

| Key to review category |
|--|
| A Dates changed, but no other changes are made - the new version of the standard carries the same ID and a new version number |
| B Changes made, but the overall outcome remains the same - the new version of the standard carries the same ID and a new version number |
| C Major changes that necessitate the registration of a replacement achievement standard with a new ID |
| D Achievement standard will expire and not be replaced |

| | |
|--|----------------------|
| Externally assessed achievement standards categorised as category C expire at the end of | December 2012 |
| Internally assessed achievement standards and unit standards categorised as category C expire at the end of | December 2013 |

Sciences > Science > Agricultural and Horticultural Science

| ID | Ref | Title | Level | Credit | Review Category |
|--------------|------------|---|----------|----------|-----------------|
| 7087 | | Analyse and evaluate relationships between market forces and a primary product | 3 | 8 | C |
| 90651 | 3.3 | Explain how market forces affect supply and demand of primary products | 3 | 4 | C |
| 91530 | 3.3 | Demonstrate understanding of how market forces affect supply of and demand for New Zealand primary products [Externally Assessed] | 3 | 5 | |
| 7088 | | Investigate primary product attributes for specific market opportunities | 3 | 6 | C |
| 7089* | | Analyse a husbandry practice within a schedule of operations for a primary product | 3 | 5 | C |
| 7090 | | Investigate, with guidance, the effectiveness of production processes to achieve product attributes | 3 | 8 | C |
| 90652 | 3.4 | Explain market requirements and the production process for a nationally significant primary product | 3 | 6 | C |
| 91531 | 3.4 | Demonstrate understanding of how the production process meets market requirements for a New Zealand primary product(s) [Externally Assessed] | 3 | 4 | |
| 7089* | | Analyse a husbandry practice within a schedule of operations for a primary product | 3 | 5 | C |
| 90650 | 3.2 | Investigate production and marketing of a nationally significant primary product | 3 | 4 | C |
| 91528 | 3.1 | Carry out an investigation into an aspect of a New Zealand primary product or its production | 3 | 4 | |
| 90649 | 3.1 | Research the production of a marketable, locally produced primary product | 3 | 6 | C |
| 91529 | 3.2 | Research and report on the impact of factors on the profitability of a New Zealand primary product | 3 | 6 | |
| 90653 | 3.5 | Analyse a primary production environmental issue | 3 | 4 | C |
| 91532 | 3.5 | Analyse a New Zealand primary production environmental issue [Externally Assessed] | 3 | 5 | |

*please note this standard appears in the table more than once.

Appendix

Development of Level 3 Agricultural and Horticultural Science Standards

Process of Aligning Standards with the New Zealand Curriculum

The knowledge base of Agricultural and Horticultural Science aligns with achievement objectives from the Science, Social Science, and Technology Learning Areas of the NZC, which reflects its applied nature. Some of the detail from the Explanatory Notes in the standards has been moved to the Teaching and Learning Guide.

Conditions of Assessment provide guidelines on the assessment of the internal standards; Assessment Specifications on the NZQA website provide guidelines on the assessment of external standards. The *Teaching and Learning Guide for Agricultural and Horticultural Science* provides guidance on opportunities to develop students' capabilities in key competencies, values, and principles for the 21st century learner in the NZC.

'Agribusiness' is a term widely used in the primary production industries to describe the financial, market-driven nature of modern primary production. This dominates the thinking and actions of all commercial growers.

Addressing Duplication

All curriculum-based Level 3 unit standards have been recommended for expiry due to significant overlap of teaching and learning outcomes with achievement standards.

Addressing Credit Parity

The credit value of AS3.3 and AS3.5 have been increased to five credits, while AS3.4 has been reduced to four credits to better reflect the teaching and learning time involved.

External and Internal Assessment

There has been no change to the number of external and internal achievement standards.

The internally assessed achievement standards provide opportunities for a range of assessment methods, with possible practical applications in either Agriculture or Horticulture.

Current externally assessed standards remain, however the content has been reviewed and revised in considering the links to the NZC achievement objectives.

What Has Changed?

The existing unit standards were designated expiring due to lack of use and overlap with achievement standards.

Please see table above for an indication of the replacement relationships between expiring unit standards and the newly registered achievement standards.

Internally assessed standards

AS3.1 *Carry out an investigation into an aspect of a New Zealand primary product or its production*

This standard focuses on the Level 8 Investigating in Science achievement objective in the Science Learning area, and requires direct involvement in the practical investigation of a primary product or its production. This approach differs from the use of three information gathering techniques that existed in 90650.

AS3.2 *Research and report on the impact of factors on the profitability of a New Zealand primary product*

This standard requires the researching and reporting on the impact of factors on profitability of a New Zealand primary product. The outcome places greater emphasis on the research process, and has been clarified to provide better guidance for students. Explanatory Notes have been amended to better clarify the intent of the standard. AS3.2 replaces 90649.

Externally assessed standards

The multiple criteria in the former standards have been collapsed to a single criterion that allows for more holistic assessment decisions to be made. Explanatory Notes for each standard have been amended to better clarify the intent of the standard.

Changes were made to the credit values to better reflect the time required to achieve the standards.

AS3.3 *Demonstrate understanding of how market forces affect supply of and demand for New Zealand primary products*

Replaced 90651. Credit value increased from 4 to 5.

AS3.4 *Demonstrate understanding of how the production process meets the market requirements for a New Zealand primary product(s)*

Replaced 90652. Credit value decreased from 6 to 4.

AS3.5 *Analyse a New Zealand primary production environmental issue*

Replaced 90653. Credit value increased from 4 to 5.