



The following report gives feedback to assist assessors with general issues and trends that have been identified during external moderation of the internally assessed standards in 2025. It also provides further insights from moderation material viewed throughout the year and outlines the Assessor Support available for Agricultural and Horticultural Science. Please note this report does not introduce new criteria, change the requirements of the standard, or change what we expect from assessment.

Insights

91928: Demonstrate understanding of how a life process is managed in a primary production system

Performance overview:

This standard requires students to demonstrate an understanding of how a life process is managed in a primary production system. A focus on the student's understanding being shown, rather than a numerical requirement of features, led to the best quality student work and the higher grades.

Describing the life process

- For Achieved, this involved describing a life process that was managed in a primary production system, describing a relevant management practice that influenced the life process (using supporting evidence), and showing an understanding of a Māori concept in the context of the relevant management practice.
- A life process is any of the basic physiological functions of the plant or animal, such as those in the MRS GREN acronym. The most common life processes successfully described were photosynthesis, reproduction, nutrition, pollination, growth, and lactation.
- Describing a life process required the inclusion of a variety of features of the life process. Using the context of the chosen primary production system made the description more authentic and appropriate to the subject.

Describing the management practice

- A management practice is an action taken by a grower or farmer that is carried out as part of production. When students demonstrated an understanding of the relevant management practice, the management practice chosen had a direct influence on the life process, and a variety of features of the management practice were described. The description of the management practice was linked to the life process, but a description of the influence is not necessary for Achieved.
- When using supporting evidence, the evidence was integrated into, and used to back up or support, the student's reasoning. Photos and diagrams were the most common form of supporting evidence used. For students to 'use' this evidence there was a linkage, made by the student, between the evidence and the student's reasoning. Often, this included referring to detail in the evidence or captions or annotations on the photo/diagram that aligned with the student's reasoning. The 'supporting' requirement was met by using the evidence to back up an aspect or aspects of the features of the management practice described by the student.

- Students showed an understanding of a Māori concept in the context of the management practice.

Explaining the influence of the management practice

For Merit, an explanation of how the management practice influences the life process is required. When Merit was awarded, the explanation was built on the features in the description of the management practice. The explanation involved linking (with detail) the ideas or steps between the features of the management practice and its influence on the life process. Success at this grade usually included several aspects of explanation.

Evaluating the management practice to improve production

For Excellence, an evaluation of how the management practice improves production is required. Successful evaluations involved a judgement with analysis of the management practice improving production. This often included a comparison between two options.

Practices that need strengthening:

Describing the life process and management practice

- When choosing the life process and relevant management practice, it can be advantageous to select a well-understood management practice, then select a life process that is most influenced by the management practice. Management practices that influenced transpiration were found to be difficult to describe. The description of the life process should be given in an agricultural or horticultural context, which often includes science concepts.
- In some evidence for the description of the life process, aspects of some biological concepts described were beyond the scope of level 6 of the curriculum. Only key structural parts and functions of the parts of the cell should be included in the description, as well as other features of the life process.
- When describing the life process and management practice, a variety of features should be included in the description. When searching for a variety of features, the question starters “what, when, who, how” in the preparation of the students’ reports can assist in providing a wide variety of information in the description. A list of procedural steps can be used as part of the management practice description.
- A common barrier to gaining Achieved and higher grades was meeting the requirement for using supporting evidence when describing the management practice. A list of references, in-text referencing on its own, a picture in isolation, or a table with data that was not referred to in the report does not meet the requirement. Refer to the ‘Performance overview’ section for ways to demonstrate using supporting evidence. Examples of evidence include annotated photos from field trips, diagrams, tables of data, and quotes from named experts.
- To meet the Māori concept requirement, the focus should be on the relevant management practice and the plant or animal rather than profit, money, or income.

Explaining the influence of the management practice

For Merit, the influence of the management practice on the life process needs to be explained. This involves giving detailed reasons for how the features of the management practice influence the life process.

Evaluating the management practice to improve production

- For Excellence, when evaluating how the life process is influenced by the management practice to improve production, a judgement with analysis is required. The step up from Merit is the focus on improving production.
- The evaluation could involve comparing doing the management practice with not doing it, considering different forms of the management practice, or evaluating different forms of the management practice on improving production (with consideration being given to the life process).
- Limiting the task to identifying one strength and one weakness of the management practice provides a basis that is too narrow for students to demonstrate their understanding when evaluating the practice. The focus when evaluating should be on the student's understanding being shown, rather than meeting a numerical requirement of features.

91929: Demonstrate understanding of factors that influence the purpose and location of primary production

Performance overview:

This standard requires students to demonstrate understanding of factors that influence the purpose and location of primary production.

Successful approaches

- A successful approach to the task design was considering the assessment at a local level with field trips to local growers. This enabled the purpose and location of the grower/farmer to be identified and information to be collected then fully described by the student. This aligns with level 6 of the curriculum, where the focus is on local production systems such as a family or community garden, marae, small holding, or local farm.
- Another successful approach was to consider the purpose and the location as one entity, rather than separating purpose and location. This made the description more authentic for some students. Often the purpose for a producer was interlinked with the location, e.g. making profit from merino farming near Bendigo.

Describing factors

- For the location, the features that were described as part of the location and the influencing factors for the location were the same, and described once. When successfully describing the influencing factors, a variety of factors from several categories were covered.
- A focus on understanding being shown in the reports (rather than a numerical quantity of factors) correlated with the best quality student work and higher grades.

Explaining the factors

For Merit, an explanation of the factors that influence the purpose and location is required. Where Merit was awarded, the explanation involved linking (with detail) the influence of the factors on the purpose and location. The influence of factors on the location was explained with more ease for most students.

Evaluating the factors

For Excellence, an evaluation of the factors that influence the purpose and location is required. Where awarded, the evaluation involved a judgement with analysis or reasons why

a specific factor had more influence than others on the purpose and location. Talking with a grower or farmer about their situation often gave good insight for the evaluation.

Practices that need strengthening:

Describing the purpose and location

- For Achieved, the most common issue in reaching this requirement was the lack of features when describing the purpose. The description of the purpose should include the grower's or farmer's reason for producing the product. For example, to make a profit, and what the specific use is of making profit from the producer's perspective. This description should include the features of income and expenditure when making a profit, such as where the product is sold, to who, by who, and what the profit is used for by the farmer/grower, which would involve business and personal uses.
- When describing the purpose and location and the influencing factors, a variety of features should be described. The use of the question starters "what, when, how, who" can be useful to achieve this. To give a description that satisfies the standard, the student should demonstrate an understanding of the influence of these factors, rather than meeting a numerical minimum number of factors to cover.

Explaining the factors

- For Merit, when explaining the factors that influence the purpose and location of a primary production system, the most common deficiencies were not including the purpose in the explanation or a lack of detail related to the location.
- The explanation of the factors requires a step up of critical thinking from the description and could include reasons, a linking of ideas, or the impact of the factors on the purpose and location.
- When data is given, the influence of the data on the specific factor needs to be explained.

Evaluating the factors

For Excellence, when evaluating the factors that influence the purpose and location, a judgement with analysis or reasons is required. This will involve several factors in the evaluation.

91289: Carry out an extended practical agricultural or horticultural investigation

Performance overview:

This standard requires students to carry out an extended agricultural or horticultural investigation. This involves the complete investigation process: planning, carrying out, processing data, interpreting data, and reporting.

Carrying out the investigation in groups

Investigations are often carried out in small groups in classrooms for logistical reasons. This can include planning and carrying out a group method and the collection of data. However, each student should write their own method and have an active part in carrying out the investigation and collecting data. Processing, interpreting data, and writing the report should be done individually and without collaboration.

Findings from another source

For the investigation report, students are required to identify and include relevant findings from another source. Findings should be from verifiable or published resources, not from other students' findings. The findings need to be linked directly to the investigation to make them relevant.

Practices that need strengthening:

- The standard involves an extended investigation requiring the gathering of primary data over time. Taking readings at the end of an investigation does not meet the requirements for the standard. A suitable investigation design will involve taking readings of the dependent variable several times over the duration of the investigation, e.g. each week for a month-long investigation.
- Providing templates in the assessment task has resulted in over-guidance to students. The Conditions of Assessment state templating should not be used. However a checklist of requirements for the investigation can be provided to students.
- The source of findings in some reports included links, large websites, or search engines which did not identify the source and lack the detail to locate and view the findings. The source must be identified in the report with enough detail to verify the findings.
- The practice of considering variables described in a planning table outside the method was acceptable for previous Level 1 investigations. NCEA Level 2 requires the variables (independent, dependent, and controlled) to be described in the method.
- For Merit, the workable method should contain enough detail describing the variables and steps that another person could follow the instructions and repeat the investigation.

91291: Demonstrate understanding of advanced plant propagation techniques used for commercial production in New Zealand

Performance overview:

This standard requires students to demonstrate understanding of advanced plant propagation techniques used for commercial production in New Zealand.

When choosing techniques, one asexual and one sexual technique are required at each grade level.

Practices that need strengthening:

Describing the steps of the technique

- A common issue that needed to be strengthened was the level of detail in the steps. To reach the level of detail required in the description, the ability for someone else to carry out the technique from the instructions could be used as a guide.
- Not all steps are required, but the key steps must be included.

Explaining steps towards success of the technique

When explaining how the steps provide the conditions for successful propagation, the emphasis should be on providing detailed information about the conditions to achieve successful propagation. Within the explanation, students must refer to relevant plant structural features and functions, and/or horticultural science concepts.

Evaluating techniques

For Excellence, comparing and/or contrasting or justifying needs to be done with each of the following aspects: quality, quantity, genetic potential, timing, and the economics of production. Depending on the techniques chosen, there will be aspects that are more important than others and therefore require greater focus. If an aspect has no role in the use of the technique, this should be made clear, so the student is demonstrating their understanding of the technique and the aspect.

91293: Demonstrate understanding of livestock reproductive techniques in commercial production in New Zealand

Performance overview:

This standard requires students to demonstrate understanding of livestock reproductive techniques in commercial production in New Zealand.

Induction is unavailable as a management practice in New Zealand dairy farms, and this procedure has been removed from the standard.

Practices that need strengthening:

Describing the steps of the technique

- In some work seen, the level of detail in the steps was inadequate for the student to demonstrate their understanding of the technique. To reach the level of detail required in the description, the ability for someone else to carry out the technique from the instructions could be used as a guide.
- Not all steps are required, but most steps (including the key steps) must be included.

Explaining steps towards success of the technique

For Merit, areas that need strengthening are:

- providing detail when explaining the steps
- a focus on achieving success of the technique
- including the role of hormone(s) relevant to each reproductive technique. If there is no hormonal role in a technique, this should be made clear, so the student is demonstrating their understanding of hormonal control for the technique.

Justifying a technique

For Excellence, each of the following aspects need to be addressed in the justification of a technique: quantity, genetic potential, timing, and the economics of production. There will be aspects that are more important than others and therefore require greater focus. If an aspect has no role in the use of the technique, this should be made clear, so the student is demonstrating their understanding of the technique and the aspect.

To give feedback on this report click on [this link](#).

Assessor Support

NZQA offers free online support for teachers as assessors of NZC achievement standards. These include:

- Exemplars of student work for most standards.

- National Moderator Reports.
- Online learning modules (generic and subject-specific).
- Clarifications for some standards.
- Assessor Practice Tool for many standards.
- Webcasts.

Exemplars, National Moderator Reports, clarifications, and webcasts are hosted on the NZC Subject pages on the NZQA website.

[Subject Pages](#)

Online learning modules and the Assessor Practice Tool are hosted on Pūtake, NZQA's learning management system. You can access these through the Education Sector Logon.

[Log in to Pūtake](#)

We also may provide a speaker to present at national conferences on requests from national subject associations. At the regional or local level, we may be able to provide online support.

Please contact assessorsupport@nzqa.govt.nz for more information or to lodge a request for support.