



National Qualifications Framework Levels 1–3, 2008

Agricultural and Horticultural Science

National Moderator's Report

National Moderator Report for Agricultural and Horticultural Science

General Guidance for Assessors

The purpose of external moderation is to provide reassurance that assessor judgments are at the national standard and are made on the basis of assessment materials that are fair and valid.

All assessment materials are expected to:

- give the learner the opportunity to meet the requirements of the standard
- have an assessment schedule that gives evidence of appropriate learner responses and clear judgments at all levels.

The Ministry of Education contracted subject experts to write assessment resources for achievement standards. These are not pre-moderated. The intention is that they are modified to suit teaching programmes and student needs. They do not provide ‘rules’ but suggest different ways of assessing to the nationally registered standard.

General Overall Comment

The majority of assessors of achievement standards continue to use exemplars from the TKI website as the base task. These may be modified to suit the focus of teaching programmes – either agriculture or horticulture. Provided that the modifications follow the structure and assessment schedules then the modified tasks will have a high chance of meeting the national standard.

In the case of generic exemplars (such as those at Level 3) the modifications to the task are usually relatively straight forward. However, it is essential that assessors modify the generic schedules to provide adequate examples of expected student evidence. This will enable assessors to make accurate and consistent judgments on the evidence students produce. Assessors should note that the generic schedules provided on the TKI website are too broad to ensure accurate and consistent judgments on student evidence. Their purpose is to give guidance to assessors when they are developing their own, specific schedules for the task.

Many assessors use questions from “old” examination papers when constructing tasks for unit standard assessment. Care should be taken when using such questions. While the context of the question may be appropriate, the descriptor terms often do not reflect those used in element statements. Circulating around some providers are tasks written when unit standards were first developed. None of these tasks have been pre-moderated and the sentiments regarding their use are the same as those expressed above for achievement standards.

When further evidence is collected, it is important that this is indicated in some manner such as different colour. Students should not be given more guidance than they were given in the task and collection of “further evidence” should satisfy the provider’s assessment policies. There is a requirement for all work at Level 2 to be individual work. Group work may be appropriate in some Level 1 standards.

Many of the comments relating to the commonly used standards have been mentioned in previous National Moderator reports, however, they require emphasising along with some new comments that may aid assessor planning and judgements.

90156: Carry out an agricultural or horticultural investigation with guidance

- Group work is permissible during the planning and carrying out of the investigation, however individual work is mandatory when processing data and writing the final report.

If group work is undertaken the assessor must provide evidence that each student has contributed to the plan and collection of data. This could be achieved by a grid of student names containing criteria relating to level of involvement

- Assessors must give sufficient guidance to students that “*a range for the independent variable*” involves “at least three” – this can be written into the task.
- Processing of data, at a basic level, could be achieved by way of a well constructed table which clearly shows a pattern or trend (or lack thereof).
- A valid range is required for Achievement with Merit, that is, is the range realistic for the given situation.
- The main determining factors at Merit level are the quality of the plan and the quality of data processing. Accuracy in both aspects is essential however a graph is not essential when “*processing data*”.
- The determination of Excellence is the evaluation of how the actual plan used produces a valid conclusion. The evaluation should answer the question “what did I do that provides the confidence that a valid conclusion has been made”. It does not involve what the student should have done; trialling the plan should have highlighted any deficiencies of the plan.
- The task should have a meaningful aim. There are tasks such as the drainage rate of sand, silt and clay where the answer should be obvious. It is hoped that tasks have a practical application.

90157: Demonstrate practical skills in agriculture or horticulture production

- Assessors should submit the discriminating criteria used to award level of achievement in each practical skill.
- Guidance as to type of criteria at different levels of achievement is provided in the explanatory notes. They emphasise quality of performance and not the coverage of a number of different stages.
- Practical skills are discrete units of work, not components of work within a skill (such as set up the sprayer, use the sprayer, and store the sprayer).
- A “*range*” of practical skills – at least three – is required at each level of achievement. Offering more than three practical skills is advocated.
- Judgements for practical skills require care. Excellence requires three skills at excellence level of performance; Merit three skills at Merit or Excellence level of achievement. Repeating the skill to the same level maybe an appropriate criteria especially in horticulture skills assessed throughout the year and therefore a manageable option.

- Horticulture options should provide a greater range of materials etc. to satisfy criteria 1. Naming four weeds, four garden tools and four plant diseases does not satisfy requirements. The TKI exemplars provide clear guidance.
- An equal number of opportunities should be provided for students in each of the four categories. Usually the “*equipment*” and “*materials*” categories are easier to cater for but a balance in opportunities is important.
- The use of PowerPoint presentations for the “recognition” criteria is gaining in popularity. There are advantages in terms of convenience but must be strictly monitored for validity.

18984: Describe plant parts and their functions

The NZASE exemplar is the only task used to assess this standard. Teachers need to critique tasks before using them to ensure they meet the requirements of the standard and ensure the wording is clear for students. A management practice question is not required for this standard.

90450: Carry out an agricultural or horticultural investigation with supervision

- The intent of the standard is that students plan their own investigation that extends over a period of time, unlike the Level 1 standard where the plan could be carried out in a single class period. The expectation is that students will carry out their own plan and that plans, data and reports will reveal differences even if a common task is set.
- Often the submitted task clearly and correctly states that the investigation is to be conducted individually during all stages; however the method, data and processing are often identical in student reports.
- Group work is not permitted.
- Template sheets are not permitted because they provide too much guidance (the focus of the Level 1 investigation). A checklist as used in the TKI exemplars is allowed.
- The generic schedule must be amended by supplying evidence appropriate to the actual task.

90455: Describe how livestock behaviour impacts on productivity

- The TKI exemplar should be used with care because the terms “task” and “management practices” are, outside this exemplar, often substituted for each other. Also, the exemplar in its present state leads students to repeating themes in their answers but from a positive and negative viewpoint e.g. stress related practices - “do this and don’t do this”.
- At Achieved and Merit level students are required to explain how “*interactions between behaviour and management impact on productivity*” within a production system.
- The task can apply to a variety of livestock species at the achieved and merit level however the excellence criteria does relate to a production system which on a pig, poultry or dairy unit will involve a single livestock species.

- A task could contain questions on dairy cows, animal welfare issue, stockyard design, mothering behaviour of ewes etc. Two of these questions could be designated Excellence questions but with the opportunity to provide evidence for Achieved and Merit.

90649: Research the production and marketing of a locally produced primary product

- In almost all cases assessors use the TKI exemplar; however in doing so they sometimes omit to amend the task to suit primary product choice and few amend the generic schedule to incorporate evidence expected from students at different levels of achievement. There is an expectation that if all students are researching apples then evidence statements specific to apples is provided. It is accepted that if students are researching different primary products then it is not possible to provide evidence for all but there is an expectation that evidence for the most popular product choice will be provided.
- The standard has a research focus but evidence from 2008 moderation indicates that many students were content with downloading and/or submitting extracts from secondary data that had some relevance to the product selected. Such information was rarely analysed in a manner that allowed for the integration of ideas essential for Merit and Excellence.
- The explanations of management practices and market requirements often lack the level of understanding and detail required at Level 3. In earlier years, projects were dominated with information on the production process, but in 2008 it was not uncommon for students to attempt to explain the production process in one page. Usually their attempts were basic descriptions of what happens with no linkage to its impact on market requirements such as product attributes. Students who present relevant and some irrelevant material on both production and marketing but who cannot establish linkages are Achieved students at best.
- A single interview with a producer, on its own, does not constitute “research”. It must be supported by information derived from other sources.
- Explanatory notes require students to acknowledge sources of information in a traceable reference system. It is suggested that tasks provided to students provide examples of how books, internet material etc. should be acknowledged.
- Several providers provided a task designed to cover the requirements of 90649 and 90650. The tasks often involved lengthy student instructions and students could not distinguish between the requirements of each standard in their submitted work.

90650: Investigate production and marketing of a nationally significant primary product

- A reduced number of providers’ submitted work pertaining to this standard.
- The information-gathering techniques to be used are stipulated in Explanatory Note 3 and the MOE exemplar has been modified to accommodate the changes made.
- Surveys, if used, must contain relevant questions to the aspect of production or marketing being investigated. Survey responses must be analysed and this information used to draw conclusions and make recommendations.
- Most students use secondary data and field trips as techniques. They must provide the raw information, at least as an appendix, and show evidence of analysis of the raw information from which they draw conclusions and make recommendations.

- When writing reports it is not permissible to introduce new information that was not gathered using the identified information-gathering techniques.
- Information from all techniques must be used when reporting on the investigation.
- The main weakness in student reports is establishing linkages between production and marketing using the information students had found out.
- Assessors should modify the exemplar assessment schedule to fit the primary product that students are investigating. There is an expectation that if all students are investigating apples then evidence statements specific to apples and not potatoes (TKI exemplar) is provided.