

# **National Certificate of Educational Achievement**

## **2013 Assessment Report**

### **Agricultural and Horticultural Science Level 1**

- 90919 Demonstrate knowledge of soil management practices**
- 90921 Demonstrate knowledge of livestock management practices**
- 90924 Demonstrate knowledge of horticultural plant management practices and related plant physiology**

## COMMENTARY

The assessment specifications published in December of the previous year are given to provide a context for teaching the knowledge associated with the three external achievement standards. The specifications can be also be used as a context for field trips to reinforce the concepts taught.

It was clear some candidates have been taught only to the assessment specifications, which limited their ability to answer with sufficient depth and understanding. The assessment specifications should not limit what is taught in a course. Knowledge of the management practices within the scope of the achievement standard is required to give adequate answers in the examination.

From other candidate answers, it appears some teachers are not taking advantage of incorporating the context of the specifications into candidate learning.

Candidate understanding of all parts of the question and writing answers for the question was an issue raised by the markers. This is a literacy skill which is required and may need to be taught for the examination situation.

Add link to specs please Dave, Josie

## STANDARD REPORTS

### 90919 Demonstrate knowledge of soil management practices

#### ACHIEVEMENT

**Candidates who were awarded Achievement for this standard demonstrated the required skills and knowledge. They typically:**

- communicated in a concise and clear manner
- wrote a large amount but not all information was relevant to the question
- chose actions that were involved in the preparation of a seedbed
- demonstrated a sound knowledge of what crop rotation is
- described more than one point/action for a full description.

#### NOT ACHIEVED

**Candidates who were assessed as Not Achieved for this standard lacked some or all of the skills and knowledge required for the award of Achievement. They typically:**

- did not attempt all questions
- wrote factually incorrect and incomplete answers
- used incorrect terminology eg 'lime sweetens the soil'
- showed limited understanding of what actions are taken to prepare a seedbed
- showed little knowledge of effects of NPK on plant growth
- wrote that plants put nutrients into the soil
- confused mono cropping with cultivation.

## **ACHIEVEMENT WITH MERIT**

**In addition to the skills and knowledge required for the award of Achievement, candidates who were awarded Achievement with Merit typically:**

- wrote clearly linked explanations to several key points while discussing several results or effects a practice might have
- showed a solid understanding of how effluent affects the physical, chemical and/or biological properties of the soil
- explained advantages and/or disadvantages of management practices
- related the action/step of a practice to the reason for undertaking the action
- linked how a change in soil fertility affected plant growth.

## **ACHIEVEMENT WITH EXCELLENCE**

**In addition to the skills and knowledge required for the award of Achievement with Merit, candidates who were awarded Achievement with Excellence typically:**

- wrote detail answers that were logical to follow
- justified the use of a selected management practice over another practice by comparing advantages and disadvantages of **each**
- gave reasons for why either practice was the preferred practice and linked this to the soil type or to the effect it had on soil properties
- demonstrated a sound knowledge of soil properties and were able to discuss the effect practices had by relating it to the situation.

## **OTHER COMMENTS**

A significant number of candidates had a limited understanding of crop rotation. Many incorrectly stated that plants returned or put nutrients into the soil. Growing legumes can result in nitrogen being added to the soil however the explanation must be specifically stated as it is the exception for plants in a crop rotation.

Candidates often gave brief or simplified reasons as to why practices or steps within the practice are carried out.

## **90921 Demonstrate knowledge of livestock management practices**

### **ACHIEVEMENT**

**Candidates who were awarded Achievement for this standard demonstrated the required skills and knowledge. They typically:**

- had a detailed knowledge of a variety of agricultural practices
- demonstrated the skill of writing multiple aspects of a description (how, what and when agricultural practices are carried out)
- used the data provided to assist them writing a description of the management practice
- did not link the description of the management practice to the reason it is carried out.

## **NOT ACHIEVED**

**Candidates who were assessed as Not Achieved for this standard lacked some or all of the skills and knowledge required for the award of Achievement. They typically:**

- did not provide answers to all parts of each question
- wrote answers that were too short to provide sufficient evidence
- answered the question incorrectly and wrote answers that were not related to the topic
- missed key parts of the question in their answer
- repeated information from the table without giving a reason why it was important.

## **ACHIEVEMENT WITH MERIT**

**In addition to the skills and knowledge required for the award of Achievement, candidates who were awarded Achievement with Merit typically:**

- were able to read a table and extract data from the table
- quoted the data and demonstrated an understanding of the importance of the data
- explained with reasons why a management practice was carried out
- used diagrams to assist with the clarification of a description or explanation
- used correct terms (both scientific and agricultural) rather than slang words
- used bullet point or paragraphing to separate key ideas.

## **ACHIEVEMENT WITH EXCELLENCE**

**In addition to the skills and knowledge required for the award of Achievement with Merit, candidates who were awarded Achievement with Excellence typically:**

- wrote clear, concise logical answers within in the spaces provided in the answer booklet
- wrote in paragraph format and restricted each paragraph to one key idea which also contained a comparison and/or contrast statement or a justification statement
- highlighted key words in the question and focused on these key words in the answer
- were able to compare, contrast and justify various management practices with confidence
- completed all parts of each question and used the ruled pages in the answer booklet
- used correct terms in relation to equipment, animal systems and agricultural practices.

## **90924 Demonstrate knowledge of horticultural plant management practices and related plant physiology**

### **ACHIEVEMENT**

**Candidates who were awarded Achievement for this standard demonstrated the required skills and knowledge. They typically:**

- attempted all questions
- showed understanding of how to carry out management practices
- used the correct terminology
- appeared to have practical experience of plant management practices.

## **NOT ACHIEVED**

**Candidates who were assessed as Not Achieved for this standard lacked some or all of the skills and knowledge required for the award of Achievement. They typically:**

- did not attempt all questions
- wrote answers unrelated to the question
- showed limited understanding of plant management practices
- did not use the information
- wrote the environmental conditions in the three boxes instead of describing the management practice to change the environmental condition for question 3.

## **ACHIEVEMENT WITH MERIT**

**In addition to the skills and knowledge required for the award of Achievement, candidates who were awarded Achievement with Merit typically:**

- wrote logical answers using the correct terminology
- linked the management practices to plant requirements and physiology
- used the bullet points to ensure they answered each point.

## **ACHIEVEMENT WITH EXCELLENCE**

**In addition to the skills and knowledge required for the award of Achievement with Merit, candidates who were awarded Achievement with Excellence typically:**

- wrote clear, concise logical answers
- were able to compare and contrast selected management practices with confidence
- had in-depth knowledge of a wide range of plant management practices and plant physiology.

## **OTHER COMMENTS**

### *Question 1*

Some candidates confused biological control for Integrated Pest Management (IPM), often describing it as control of pests without using chemicals. IPM is a combination of the most appropriate and suitable aspects of all controls i.e. cultural, chemical and biological

### *Question 2*

Some candidates showed a limited knowledge of the internal plant structures, in particular the xylem.

### *Question 3*

Many candidates linked the environmental changes to the plant process but struggled to link the environmental change through to production.