

National Certificate of Educational Achievement

2011 Assessment Report

Agricultural and Horticultural Science Level 2

- 90451 Describe physical factors of the environment and techniques used to modify them for plant production**
- 90452 Describe how techniques used to modify soil water content optimise primary production.**
- 90453 Describe modification of livestock reproduction or plant propagation to improve productivity.**
- 90454 Describe manipulations to influence growth and development, and productivity, in livestock or plants.**

This was the final year for examinations to assess these achievement standards.

STANDARD REPORTS

90451 Describe physical factors of the environment and techniques used to modify them for plant production

ACHIEVEMENT

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

- understood the causes of high humidity
- described techniques used to control glasshouse humidity levels
- described differences in the frost frequency and severity due to topography
- provided description of how a frost protection technique is used.

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
- provided incorrect or incomplete answers
- rewrote the question but gave no additional information
- demonstrated no understanding of the term topography
- did not describe a frost protection technique.

ACHIEVEMENT WITH MERIT

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

- linked the physical factor to a technique and its impact on plant growth
- explained how or why a technique is used
- explained how high humidity reduces crop quality and quantity
- gave reasons as to how training improved light availability
- showed understanding of how frost can reduce the quantity and quality of export fruit.

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:

- determined by careful reading the intent of the questions
- provided well considered answers when justifying or comparing techniques
- supported answers with relevant data where possible
- discussed alternative options before deciding on a course of action.

90452 Describe how techniques used to modify soil water content optimise primary production.

ACHIEVEMENT

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

- understood that spraying is necessary before direct drilling
- described how normal cultivation could affect soil structure
- described the functions of soil water in plant growth
- described how watering during cool periods affects soil water loss.

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
- focused on soil organisms rather than soil water
- did not describe how mulching provides a barrier on the soil surface
- substituted plastic mulches for organic mulches
- confused direct drilling with mulching.

ACHIEVEMENT WITH MERIT

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

- linked soil water and competition to plant growth
- provided the scientific basis for plant processes
- understood the practicalities of different techniques
- showed awareness of the environmental impacts of different techniques.

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:

- compared and contrasted different forms of cultivation techniques
- justified use of organic mulching in commercial production
- discussed in detail how irrigation impacts on crop production.

90453 Describe modification of livestock reproduction or plant propagation to improve productivity.

ACHIEVEMENT

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

- answered in full at least two of the questions
- utilised information given in pictorial and tabular format
- provided basic facts
- provided accurate descriptions of techniques.

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:

- misinterpreted questions
- repeated the wording of questions
- gave superficial answers
- confused the name and function of hormones
- confused anatomical parts in different techniques.

ACHIEVEMENT WITH MERIT

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

- demonstrated in-depth understanding of reproductive technologies
- understood the physiology of different techniques
- used appropriate terminology
- provided diagrams where appropriate.

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:

- linked techniques to economics and market requirements
- focused on the scenarios provided
- integrated information required by the prompts provided in the question
- justified techniques for a given situation
- displayed reasoning that was logical and clearly expressed.

90454 Describe manipulations to influence growth and development, and productivity, in livestock or plants.

ACHIEVEMENT

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

- described what management practices involve
- stated basic information relating to relevant factors
- used language appropriate to standard
- wrote full answers to most questions.

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:

- missed answering at least one question
- provided superficial inaccurate information
- showed evidence of having misread questions
- expressed limited knowledge of management practices.

ACHIEVEMENT WITH MERIT

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

- provided accurate and concise information
- linked management practices to their effect on growth and development
- used science ideas to explain the effects on growth and development
- displayed understanding of differences between growth and development.

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:

- integrated ideas when developing response
- related courses of action to commercial production
- understood the term justify and the implications when answering questions.