ASSESSMENT GUIDELINES

Unit 2810

Select an integrated pest and disease management programme in production horticulture.

Level 5, Credit 7, version 4

Select an integrated pest and disease management programme in production horticulture

Unit standard 2810
Level 5, Credit 7, Version 4

Level of performance required for this unit standard

This is a level 5 unit standard. At this level trainees are expected to demonstrate the following abilities when completing assessment tasks:

- To work within broad general guidelines; with responsibility for the achievement and standard of the outcome.
- To apply a wide range of technical skills, knowledge, and innovation to complete the task to the specified standard, in a variety of familiar and unfamiliar, routine and non-routine contexts.
- To analyse and interpret a wide range of data, and make an informed judgment.

Workplace assessment:

For guidelines on Workplace Assessment, please refer to the NZHITO Workplace Assessors Manual, and for further information, please contact: NZHITO, PO Box 8638, Christchurch.
Ph 03 9644 735, fax 03 9644 737, website www.hortito.org.nz

Special notes:

1 Case studies may be used as the basis of this unit standard.

2 A *defined crop* may include any commercial horticulture crop from the following sectors: amenity, arboriculture, floriculture, fruit, landscape, nursery, vegetable, or viticulture.

Entry information:

Open, but it is recommended that before seeking credit for this unit standard learners gain knowledge and skills in pest, disease, and disorder identification.

Unit 2810: Select an integrated pest and disease management programme in production horticulture
(Apprentice copy)

ELEMENT	Competent	Range of evidence an assessor should consider
Element 1 Identify life cycles of pests, which affect a defined crop.	**Yes/No**	▪ Identify pests that affect the defined crop, and describe the life cycle of each. Range: minimum of five pests ▪ Describe the signs and symptoms that identify the presence and life cycle stage of each pest in a crop. ▪ Define the stages in the life cycle of each pest, where application of control measures will be likely to be most effective. ▪ Identify factors may influence effectiveness of control measures. Range: environmental conditions, stage of crop development, alternative host plants available to the pests.
Element 2 Identify diseases which are likely to affect a defined crop.	**Yes/No**	▪ Identify diseases that may affect the defined crop, and describe the life cycle of each. Range: minimum of five diseases. ▪ Describe the signs and symptoms that identify the presence and life cycle stage of each disease in a crop. ▪ Identify the stage in the development of the disease, when control application is likely to be the most effective, ▪ Identify factors may influence effectiveness of control measures. Range: environmental conditions, stage of crop development.
Element 3 Assess a range of pest control measures.	**Yes/No**	▪ Explain biological pest control, and illustrate with five examples the ways in which common predators, parasites, and pathogens work. Range: ladybirds, lacewing larvae, hover fly larvae, praying mantis, predatory mites, ▪ Explain cultural pest control methods, and identify the ways in which each controls pests. Range: hygiene, crop rotation, soil water management, environmental modification, prevention of plant damage, use of resistant cultivars, use of quarantine. ▪ Identify the characteristics of pesticides used to control production plant pests. Range: pest controlled, chemical group, formulation, toxicity, mode of action, resistance potential. ▪ Identify integrated pest control principles, and describe three proven methods in terms of their effectiveness in the horticulture industry.
Element 4 Asssess a range of disease control measures.	**Yes/No**	▪ Identify cultural control methods, and describe the ways in which each controls disease. Range: hygiene, crop rotation, soil water management, environmental modification, prevention of plant injury, use of resistant cultivars, use of quarantine. ▪ Explain the principles of biological control of diseases, and describe two methods of control used in the horticulture industry. Range: *Agrobacterium radiobacter, Trichoderma viride.* ▪ Identify the characteristics of chemicals used to control plant diseases in production horticulture. Range: disease or disorder controlled, chemical group, formulation, toxicity, mode of action, resistance potential.

Element 5 Select a control programmes for pests and diseases, in a defined crop.	**Yes/No**	▪ Explain the cultural and biological methods to be used for the specific crop. ▪ Explain the chemical methods to be used for the specific crop.

_____ *(Name of Apprentice)*

is **Competent / Not yet competent** in Unit Standard 2810. (version 4)

Signed (Assessor): _____

WPA Registration Number: _____ Date: _____

Unit 2810: Select an integrated pest and disease management programme in production horticulture
(Assessor copy)

ELEMENT	Competent	Range of evidence an assessor should consider
Element 1 Identify life cycles of pests, which affect a defined crop.	**Yes/No**	▪ Identify pests that affect the defined crop, and describe the life cycle of each. Range: minimum of five pests ▪ Describe the signs and symptoms that identify the presence and life cycle stage of each pest in a crop. ▪ Define the stages in the life cycle of each pest, where application of control measures will be likely to be most effective. ▪ Identify factors may influence effectiveness of control measures. Range: environmental conditions, stage of crop development, alternative host plants available to the pests.
Element 2 Identify diseases which are likely to affect a defined crop.	**Yes/No**	▪ Identify diseases that may affect the defined crop, and describe the life cycle of each. Range: minimum of five diseases. ▪ Describe the signs and symptoms that identify the presence and life cycle stage of each disease in a crop. ▪ Identify the stage in the development of the disease, when control application is likely to be the most effective, ▪ Identify factors may influence effectiveness of control measures. Range: environmental conditions, stage of crop development.
Element 3 Assess a range of pest control measures.	**Yes/No**	▪ Explain biological pest control, and illustrate with five examples the ways in which common predators, parasites, and pathogens work. Range: ladybirds, lacewing larvae, hover fly larvae, praying mantis, predatory mites, ▪ Explain cultural pest control methods, and identify the ways in which each controls pests. Range: hygiene, crop rotation, soil water management, environmental modification, prevention of plant damage, use of resistant cultivars, use of quarantine. ▪ Identify the characteristics of pesticides used to control production plant pests. Range: pest controlled, chemical group, formulation, toxicity, mode of action, resistance potential. ▪ Identify integrated pest control principles, and describe three proven methods in terms of their effectiveness in the horticulture industry.
Element 4 Asssess a range of disease control measures.	**Yes/No**	▪ Identify cultural control methods, and describe the ways in which each controls disease. Range: hygiene, crop rotation, soil water management, environmental modification, prevention of plant injury, use of resistant cultivars, use of quarantine. ▪ Explain the principles of biological control of diseases, and describe two methods of control used in the horticulture industry. Range: *Agrobacterium radiobacter, Trichoderma viride.* ▪ Identify the characteristics of chemicals used to control plant diseases in production horticulture. Range: disease or disorder controlled, chemical group, formulation, toxicity, mode of action, resistance potential.

Element 5 Select a control programmes for pests and diseases, in a defined crop.	**Yes/No**	▪ Explain the cultural and biological methods to be used for the specific crop. ▪ Explain the chemical methods to be used for the specific crop.

_____ *(Name of Apprentice)*

is **Competent / Not yet competent** in Unit Standard 2810. (version 4)

Signed (Assessor): _____

WPA Registration Number: _____ Date: _____

Please send this page to your NZHITO Regional Manager, who will forward it to National Office to register the credits on your NZQA Record of Learning.

Unit 2810: Select an integrated pest and disease management programme in production horticulture.

_____

(Name of Apprentice)

is Competent in Unit Standard 2810. **(version 4)**

Signed (Assessor):

_____

WPA Registration Number: _____

Date: _____