

FIELD AGRICULTURE, FORESTRY AND FISHERIES**Review of *Production Horticulture* unit standards**

Subfield	Domain	Id
Horticulture	Production Horticulture	1, 4, 14, 19, 21, 27, 33-35, 44, 50, 771, 772, 778, 779, 782-785, 789, 790, 793-802, 812, 829, 838, 1062, 2799-2817, 2865, 12395, 12396

The New Zealand Horticulture Industry Training Organisation (NZHITO) has completed the review of the unit standards listed above.

Date new versions published

July 2006

Planned review date

December 2011

Summary of review and consultation process

NZHITO, in conjunction with providers and other stakeholders, has reviewed the unit standards listed above in the Production Horticulture domain. The review considered: the currency of the unit standards and their suitability for existing and proposed qualifications; the accuracy and appropriateness of their content to their respective industries; updating special notes to include relevant legislation and licensing requirements; revising elements, performance criteria and range statements to ensure they were technically correct and up to date; and reassessing credit values to more accurately reflect the time taken for delivery, learning and assessment.

Main changes resulting from the review

The review process has resulted in the following changes to the unit standards:

- Development of four new *Production Horticulture* unit standards.
- The review and replacement of unit standards 14, 19, 21, 33-35, 772, 779, 782-785, 790, 793, 795-800, 802, 812, 838, 1062, 2800-2802, 2807, 2808, 2812, 2816, 2817, and 12396.
- Expiry of Unit 27, *Cultivate by tractor mounted implements*, as this is now covered by Unit 19061, *Cultivate with tractor drawn implements*.
- Expiry of Unit 801, *Transport harvested crop to the depot*, and Unit 2865, *Disinfest growing mediums* as they no longer meet industry requirements;
- Expiry of Unit 2799, *Install water management systems for small scale horticulture sites*, Unit 2815, *Explain details of fruit and vegetable culture* due to their lack of relevance to the industry, and lack of use.
- Expiry of Unit 778, *Distinguish between fertilisers and calculate the cost of plant-usable nutrient in fertilisers*, and Unit 2806, *Take soil and leaf samples for testing*, due to their integration into new unit standards.

Unit standards categorised as category C or D expire at the end of December 2008.

Impact on Accreditation and Moderation Action Plan (AMAP)

The note about the mismatch between the accreditation option on AMAP 0032 and on the unit standard documents has been removed.

Impact on existing provider accreditations

Current Accreditation for			Accreditation extended to		
Nature of accreditation	Classification or Id	Level	Nature of accreditation	Classification or Id	Level
Subfield	Horticulture	2	Standards	22175, 22178, 22189	3
Subfield	Horticulture	3	Standards	22181, 22182, 22184	4
Domain	Production Horticulture	2	Standards	22175, 22178, 22189	3
Domain	Production Horticulture	3	Standards	22181, 22182, 22184	4
Standard	14	2	Standard	22174	2
			Standard	22175	3
Standards	33, 34, 35	3	Standard	22174	2
			Standard	22175	3
Standard	19	2	Standard	22176	2
Standard	21	3	Standard	22176	2
Standard	796	4	Standard	22176	2
Standard	772	2	Standard	22177	2
			Standard	22178	3
Standard	782	4	Standard	22179	3
			Standard	22180	4
Standard	798, 2817	3	Standard	22179	3
Standards	795,797	3	Standard	22181	4
Standards	784, 2812	4	Standard	22182	4
Standards	785, 2802	2	Standard	22183	2
Standard	2813	2	Standard	22185	2
Standards	802, 812	4	Standard	22186	3
			Standard	22187	4
Standards	1062, 2807	3	Standard	22186	3
			Standard	22187	4
Standard	779	2	Standard	22188	2
			Standard	22189	3
Standard	12396	4	Standard	22190	4

Impact on existing qualifications

Qualifications that contain the reviewed standards or classifications are tabled below.

Affected	The qualification lists a reviewed classification (domain or subfield) in an elective set The qualification lists a standard that has changes to level or credits The qualification lists a C or D category standard
Not materially affected	The qualification lists a standard that has a new title The qualification lists a standard that has a new classification

The following NZHITO qualifications are affected by the outcome of this review and will be revised/reviewed in 2006/2007. Items that generated the affected status are in **bold**.

Qualification Title	Id
National Certificate in Horticulture (Arboriculture) with strands in Ground Worker, Consultant Climber, Transplant Worker, Basic Climber, Advanced Climber, and Utility Worker [Ref: 0896]	4, 14, 772, 829
National Certificate in Horticulture (Forest Nursery Production) (Level 4) [Ref: 0425]	4, 14, 33, 772, 2801, 2804, 12396
National Certificate in Horticulture (Plant and Garden Supply Retailing) (Level 4) [Ref: 0085]	14, 33, 35, 772, 829, 2803

Qualification Title	Id
National Certificate in Horticulture (Floriculture) (Level 4) [Ref: 0087]	14, 35, 771, 772, 779, 829, 1062, 2804, 2807, 2810, 2813, 2814
National Certificate in Horticulture (Vegetable Production) (Level 4) [Ref: 0089]	35, 772, 800, 801, 1062, 2804, 2813, 2814

The following qualifications are also affected by the outcome of this review. The standard setting bodies (SSBs) have been advised that they require revision.

Qualification Title	Id	SSB Name
National Certificate in Fencing (Introduction to Fencing) [Ref: 0291]	4	Agriculture ITO
National Certificate in Pork Production (Core Skills) [Ref: 0964]	19, 21	
National Certificate in Poultry Husbandry with strands in Egg Production, Poultry Hatchery, and Poultry Meat Production [Ref: 1177]	4	
National Certificate in Agriculture (Level 3) with strands in Arable Farming, Cattle Farming, Dairy Farming, Deer Farming, and Sheep Farming [Ref: 0985]	27	
National Certificate in Agriculture (Level 4) with strands in Arable Farming, Cattle Farming, Dairy Farming, Deer Farming, and Sheep Farming [Ref: 0986]	27, 50	
National Certificate in Agriculture (Production Management) with strands in Arable Farming, Cattle Farming, Dairy Farming, Deer Farming, and Sheep Farming [Ref: 1188]	50	
National Certificate in Agrichemical Application with strands in External Parasites, Total Vegetation Control, Aquatic, Broadacre, Brush, and Management [Ref: 0229]	4	Infratrains NZ
National Certificate in Rural Contracting (Introductory Skills) [Ref: 0228]	4, 14, 772	
National Certificate in Equine (Racecourse Management) (Level 4) [Ref: 0653]	14	NZ Equine ITO
National Certificate in Equine (Racecourse Maintenance) (Level 3) [Ref: 0367]	14	
National Certificate in Sports Turf Management (Level 4) [Ref: 0203]	4, 14	NZSTITO
National Certificate in Amenity Turf Maintenance (Level 3) [Ref: 1078]	4, 14	
National Certificate in Conservation (Ranger) [Ref: 0797]	4, 19	PSTO

Summary of main changes

All changes are in **bold**.

Key to review category

- A** Dates changed, but no other changes are made - the replacement standard carries the same Id and a new version number
- B** Changes made, but the overall outcome remains the same - the replacement standard carries the same Id and a new version number
- C** Major changes that necessitate the registration of a replacement standard with a new Id
- D** Standard will expire and not be replaced

Subfield Horticulture
Domain Production Horticulture

Id	Title	Level	Credit	Review Category
1	Prepare and sow outdoor seedbeds manually	1	2 5	B

Id	Title	Level	Credit	Review Category
4	Maintain hand tools and service small engines Maintain hand tools and service small engines used in horticulture	1 2	3 5	B
14	Demonstrate knowledge of soil properties	2	4	C
33	Explain properties of soil	3	4	C
34	Demonstrate knowledge of the modification of soils	3	3	C
35	Demonstrate knowledge of fertilisers	3	3	C
22174	Demonstrate knowledge of soils and fertilisers	2	5	
22175	Demonstrate knowledge of soil properties and their effect on plant growth	3	10	
19	Make minor repairs of horticultural property structures	2	3	C
21	Maintain agricultural and horticultural property structures	3	3	C
796	Erect and maintain greenhouses	4	4	C
799	Erect and maintain shadehouses	3	4	C
22176	Maintain horticultural property structures	2	5	
27	Cultivate by tractor mounted implements	3	6	D
44	Establish and maintain natural shelter Establish and maintain shelter	2	2 5	B
50	Prepare seedbeds and sow crops on a field scale	4	4 10	B
771	Demonstrate knowledge of the production horticulture industry and organisations important to it Demonstrate knowledge of the production horticulture industry in New Zealand	3	3 5	B
772	Demonstrate knowledge of the structure of plants and the functions of the different parts	2	10	C
22177	Demonstrate knowledge of the structure and function of plants	2	5	
22178	Demonstrate knowledge of plant processes and plant life cycles	3	5	
778	Distinguish between fertilisers and calculate the cost of plant-usable nutrient in fertilisers	4	2	D
779	Maintain irrigation systems	2	3	C
22188	Demonstrate knowledge of irrigation systems used in horticulture	2	5	
22189	Maintain an irrigation system used in horticulture	3	5	
782	Apply plant nutrients through an irrigation system	4	2	C
798	Maintain a nutrient film technique (NFT) system	3	3	C
838	Pollinate a greenhouse tomato crop	2	2	C
2816	Set up a hydroponic growing facility	4	5	C
2817	Establish crops in hydroponic systems	3	3	C
22179	Maintain a hydroponic system	3	5	
22180	Manage a greenhouse crop	4	20	

Id	Title	Level	Credit	Review Category
783	Prepare a seedbed and lay polythene mulch	4	2	C
784	Use and maintain a precision seeding machine	4	3	C
2801	Use and maintain specialist horticulture production and harvest equipment	3	6	C
2808	Use and maintain specialist post-harvest equipment in horticulture	3	5	C
2812	Select and apply specialist foliar sprays	4	4	C
22182	Use and maintain specialist horticulture production and harvest equipment	4	10	
785	Plant seedlings in open ground	2	1	C
2802	Plant out horticulture crops by hand	2	4	C
22183	Plant out horticulture crops by hand	2	5	
789	Demonstrate knowledge of basic legal requirements affecting property ownership and staff employment Demonstrate knowledge of basic legal requirements affecting a horticulture business	4	7	B
790	Prevent frost damage	3	3	C
793	Build artificial shelter systems	4	4	C
2800	Use portable structures for the shelter of plants	4	3	C
22184	Select and install artificial shelter	4	5	
794	Control the greenhouse environment	3	4 5	B
795	Establish and maintain support systems for greenhouse crops and remove the support systems	3	2	C
797	Maintain greenhouse hygiene	3	5	C
22181	Layout, remove and clean support materials for planting in greenhouse production	4	5	
800	Demonstrate knowledge of harvest principles for horticultural crops and use basic harvest techniques	2	3	C
802	Determine crop maturity and decide when to harvest the crop	4	3	C
812	Conduct pre-harvest crop assessment	4	2	C
1062	Select and harvest individual pieces of produce	3	3	C
2807	Identify harvest criteria and determine crop readiness for harvest	3	3	C
22186	Select and harvest a horticulture crop	3	5	
22187	Manage a crop harvest	4	15	
801	Transport harvested crop to the depot	3	1	D
829	Use correct botanical nomenclature when writing plant names Demonstrate knowledge of plant nomenclature	2	2 5	B
2799	Install water management systems for small scale horticulture sites	4	4	D
2803	Maintain a documented work record Maintain a documented work record of horticultural activities	2	3 5	B

Id	Title	Level	Credit	Review Category
2804	Maintain a documented work record and prepare an enterprise report Maintain a documented work record of horticultural activities and present an enterprise report	4	12 15	B
2805	Modify plant growth patterns	5	6	B
2806	Take soil and leaf samples for testing	3	2	D
2809	Supervise storage of harvested horticulture crops	4	5	B
2810	Select control measures for pests, diseases, and disorders in production horticulture Select an integrated pest and disease management programme in production horticulture	5	7	B
2811	Select root stock to meet a defined need Demonstrate knowledge of rootstock requirements and select rootstock for planting	4	3 5	B
2813 22185	Demonstrate knowledge of quality control requirements in horticulture Demonstrate knowledge of quality control systems in production horticulture	2 2	2 5	C
2814	Apply quality control in horticulture product harvesting and packaging Apply quality control practices in horticulture product harvesting and packaging	4	5	B
2815	Explain details of fruit and vegetable culture	4	4	D
2865	Disinfest growing mediums	4	4	D
12395	Install irrigation systems Install an irrigation system	3	5	B
12396 22190	Operate and maintain an irrigation regime Operate an irrigation system used in horticulture	4 4	5 10	C
22191	Demonstrate knowledge of factors which influence plant growth	2	5	New
22192	Plan a fertiliser programme for horticulture use	3	10	New
22193	Fertilise a selected horticulture area	3	5	New
22194	Explain how plant structures, functions and processes adapt to different environments	4	5	New