Demonstrate knowledge of grapevine physiology, morphology and phenology

Level 3
Credits 10

Purpose This unit standard is for people working in the viticulture industry. People credited with this are able to demonstrate knowledge of grapevine physiology, morphology, and phenology.

Subfield Horticulture
Domain Viticulture
Status Registered
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Entry information Open.

Accreditation Evaluation of documentation and visit by NZQA, industry and teaching professional in the same field from another provider.

Standard setting body (SSB) Primary Industry Training Organisation

Accreditation and Moderation Action Plan (AMAP) reference 0032
This AMAP can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

Special notes None.

Elements and performance criteria

Element 1
Demonstrate knowledge of grapevine physiology.

Performance criteria
1.1 The process of photosynthesis in grapevines and how environmental factors affect photosynthetic activity are described
Range inputs, outputs, light quality and quantity, plant water availability, temperature, humidity, canopy density, microclimate and macroclimate.

1.2 The process of grapevine transpiration and how environmental factors affect transpiration are described.

Range transpiration driving factors, light quality and quantity, plant water availability, temperature, humidity, canopy density, microclimate and macroclimate, vascular tissues, varietal variation.

1.3 The processes of translocation in grapevines and how environmental factors affect translocation are described.

Range plant water availability, temperature, vascular tissues, energy requirement, carbohydrate status, root/soil interactions.

1.4 The four grapevine root functions are described.

Range anchorage, storage, hormones, absorption.

1.5 Describe how canopy management practices improve grapevine physiology.

Range leaf removal, shoot thinning, water management, pruning, trimming/topping.

Element 2

Demonstrate knowledge of grapevine morphology.

Performance criteria

2.1 The structure, and factors that affect, grapevine roots are described.

Range structural roots, feeder roots, root hairs, soil water, soil structure, soil nutrient status, soil chemical imbalances.

2.2 Grapevine vegetative morphology and function are described.

Range buds, leaves, shoots, tendrils, permanent wood.

2.3 Grapevine reproductive morphology and function are described.

Range inflorescence primordial, buds, flowers, berries, clusters.

2.4 Grapevine varietal ameliorography differences are described.

Range leaves, tendril, clusters, growth habit.

Element 3
Demonstrate knowledge of grapevine phenology.

Performance criteria

3.1 Factors affecting grapevine phenology are identified and described.
   Range environmental factors, hormones.

3.2 The 18-month vegetative cycle of a grape vine is described.

3.3 The 18-month reproductive cycle of a grapevine is described.

3.4 The annual carbohydrate storage cycle of a grapevine is described.

Please note

Providers must be accredited by the Qualifications Authority, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by the Qualifications Authority before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

Comments on this unit standard

Please contact the Primary Industry Training Organisation www.primaryito.ac.nz if you wish to suggest changes to the content of this unit standard.