Assessment Requirements for AHCARB602 Diagnose tree diseases

Release: 1

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Modification History

Release	TP Version	Comment
1	AHCv1.0	Initial release

Performance Evidence

The candidate must be observed diagnosing and recording diseases of trees, and developing, monitoring and documenting a report on a tree disease management plan.

The candidate must be assessed on their ability to integrate and apply the performance requirements of this unit in a workplace setting. Performance must be demonstrated consistently over time and in a suitable range of contexts.

The candidate must provide evidence for and demonstrate:

- identifying the tree and determining its region of origin
- determining seasonal growth stages of the tree
- ascertaining current and past cultural practices
- determining characteristics of the growing environment affecting the growth of a specific tree species
- identifying environmental and cultural factors that predispose the tree to disease
- determining and assessing the relevant physical and chemical properties of the soil or growing media
- determining impact of disease type on tree parts and systems
- use of industry standard terminology to describe disease aspects of tree anatomy, physiology, pathology and taxonomy
- developing a glossary of disease terminology
- considering natural defence systems of trees against major disease types
- determining disease groups according to a disease classification guide
- interpreting signs and symptoms of disease to identify which trees are diseased
- recording symptoms and signs of disease using accepted nomenclature
- collating samples and evidence into a reference collection
- determining disease type according to a disease classification guide
- determining identification of macro biotic disease to family level
- preparing specimens for microscopic examination of microbiotic diseases
- collecting, package and dispatch specimens for specialist diagnosis or laboratory testing where required
- determining current health and energy reserves of the tree

- assessing severity and extent of the disease
- researching virulence of the disease on the specific host
- determining phenology of the host and the disease
- researching and considering lag time of management options
- considering influences of environmental conditions on host, disease and management options
- providing an informed prognosis in writing and verbally
- researching management options such as Integrated Pest Management (IPM) and recommending appropriate options
- developing a disease management program within IPM guidelines
- recording and documenting tree diseases and management programs in a report
- monitoring management plans and modifying or refining as needed
- compiling a disease reference collection
- use of industry standard terminology to describe disease aspects of tree anatomy, physiology, pathology and taxonomy.

Knowledge Evidence

The candidate must demonstrate knowledge of:

- disease classification guides
- virulence, phenology, prognosis and disease severity and extent
- critical systems in the tree; physiologically, anatomically and biochemically
- patterns of host – disease interaction for each major disease type
- tree nutrition issues associated with the soil or media
- identification of signs and symptoms of tree health problems
- determination of possible and probable physiological, anatomical and biochemical impacts on the tree
- disease detection methods, taxonomic identification, life cycle stages and characteristics of the specific horticultural trees of the organisation
- natural defence systems of trees
- chemical use, toxicity and compatibility with target trees, soil and environmental characteristics of the horticultural region
- tree anatomy, physiology, pathology and taxonomy
- seasonal growth anatomy of the tree
- primary cellular and anatomical structures of the tree
- preparation of specimens of microbiotic diseases for microscopic examination
- horticultural function, cultural and performance requirements and characteristics of the trees or other woody plants being considered
- chemical, cultural and biological control methods as part of an Integrated Pest Management strategy
- methods of providing a reasoned prognosis
- the growing requirements and characteristics of trees
- the impact of the growing environment on tree health

- how to research information about tree health problems, diagnoses and remedial treatment available
- nomenclature of symptoms and disease signs
- industry standard terminology to describe disease attributes in relation to tree anatomy, physiology, pathology and taxonomy
- applicable legislative requirements.

Assessment Conditions

Performance must be demonstrated consistently over time in a suitable range of contexts and have a productivity-based outcome.

Assessment must be demonstrated consistently over time in a suitable range of contexts and have a productivity-based outcome. No single assessment event or report is sufficient to achieve competency in this unit.

Assessment may be conducted in a simulated or real work environment, however determination of competency requires the application of work practices under work conditions.

The mandatory equipment and materials used to gather evidence for assessment include:

- equipment:
  - computer
  - word processing software
  - internet connection
  - digital camera with macro
  - diagnostic tools including sounding hammer, trowel, probe, cordless drill
  - soil testing equipment
  - basic digital dissection microscope 10 -100x
  - compound microscope
  - microtome, staining and slide mounting equipment
  - slides and coverslips
  - temporary/permanent mountant
  - histochemical stains
  - trees without diseases
  - trees with biotic diseases
  - trees with abiotic diseases
  - cross-sectioned defects and diseases
- materials:
  - disease management plan
  - disease reference collection
  - glossary of disease terminology

Assessors must satisfy current standards for RTOs in the assessment of arboriculture units of competency.

Assessment must be conducted only by persons who have:

- arboriculture vocational competencies at least to the level being assessed
- current arboriculture industry skills directly relevant to the unit of competency being assessed

Links

Companion Volume implementation guides are found in VETNet -
https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72