



Australian Government

Assessment Requirements for FWPFRM5005 Contribute to selection and application of forest growth models

Release: 1

Assessment Requirements for FWPFRM5005 Contribute to selection and application of forest growth models

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- simulated the growth and yield of one stand from establishment to clear felling using a stand growth model software package. In undertaking this activity, the individual has:
 - determined data requirements for simulation
 - selected a stand growth model software package
 - assessed quality of inventory data
 - applied software package to simulate stand growth and yield
 - compared and reported on forecast and actual yields.
- simulated the yield of one stand with a recorded silvicultural history and a current inventory data using a stand growth model. In undertaking this activity, the individual has:
 - determined data requirements
 - selected a stand growth model
 - assessed quality of recorded silvicultural history and current inventory data
 - applied model to simulate stand growth and yield
 - compared and reported on forecast and actual yields.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- distinguishing between growth and yield
- methods of forecasting growth and yield:
 - continuous forest inventories
 - permanent sample plots
 - replicated trials

- growth models
- types, features and data requirements of growth models:
 - stand-based models
 - individual tree models
 - diameter class models
- advantages and disadvantages of different forest growth models
- stand characteristics that affect growth and yield:
 - mix of species in a stand
 - stand age
 - site quality
 - density or stocking
 - competition
- stand growth terminology:
 - annual increment
 - mean annual increment
 - annual compound interest rate of growth
- growth model software packages
- inputs to a growth model software package and their limitations:
 - basal area increment factors
 - Weibull functions and breakage functions
 - taper and volume tables
 - site and regime variables
 - log cutting patterns
- formula for calculating forest growth and yield
- techniques for comparing forecasts with actual harvest yields.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - growth model software packages
 - computing hardware required for operation of growth model software packages
 - stand data to be inputted into growth model software package
- specifications:
 - workplace policies and procedures regarding forest growth modelling.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>