



Australian Government

FBPTEC4015 Manage and propagate yeast

Release: 1

FBPTEC4015 Manage and propagate yeast

Modification History

Release	Comments
Release 1	This version released with FBP Food, Beverage and Pharmaceutical Training Package Version 3.0.

Application

This unit of competency describes the skills and knowledge required to select, propagate and store yeast for the production of fermented beverages.

This unit applies to those workers who have responsibility for overseeing the cellar operations of fermented beverages and the quality assurance requirements associated with those products. It may include supervising the work of others.

Legislative requirements relating to producing alcohol apply to this unit. Users are advised to check current requirements with the Australian Tax Office and state / territory liquor licensing and health agencies.

Pre-requisite Unit

Nil

Unit Sector

Technical (TEC)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Select yeast variety	1.1 Identify key properties of yeast and different strains 1.2 Determine whether dry yeast to liquid yeast suits need 1.3 Identify nutritional needs of yeast 1.4 Establish yeast health, viability and vitality 1.5 Identify storage requirements of yeast

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
2. Propagate yeast	2.1 Identify and confirm propagation requirements 2.2 Sterilise equipment and follow safe work practices 2.3 Prepare yeast propagation media ensuring availability of nutrients 2.4 Inoculate yeast culture ensuring aseptic techniques and incubate in specified conditions 2.5 Monitor yeast count or yeast by weight, viability and vitality 2.6 Perform microbiological techniques and methods to ensure a pure yeast culture
3. Maintain and monitor the propagation process	3.1 Select, clean and sterilise equipment according to workplace health and safety and food safety procedures 3.2 Conduct transfer operations to meet propagation requirements 3.3 Add yeast to wort at specified ratio 3.4 Make scale-up additions to ensure optimum performance 3.5 Monitor time, temperature and nutrients to ensure propagation 3.6 Conduct standard tests to monitor quality and flavour of product 3.7 Identify and rectify out-of-specification product, process and equipment performance 3.8 Identify different propagation equipment and methods
4. Harvest yeast	4.1 Evaluate yeast slurry for harvesting 4.2 Identify different yeast harvest methods 4.3 Store yeast for re-use

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	Interpret production and process information from a variety of workplace documents

Skill	Description
Numeracy	• Perform counts on samples using grids • Interpret and apply dilution ratios • Log and track yeast counts • Calculations to determine concentrations of extract as a percentage by weight (Degrees Plato)

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FBPTEC4015 Manage and propagate yeast	Not applicable	New unit	No equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4>

Assessment Requirements for FBPTEC4015 Manage and propagate yeast

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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 managed and propagated yeast processes for the production of fermented beverages to specification, for at least one fermented beverage, including:

- handling yeast to maintain its health and viability
- determining how much yeast to pitch
- carrying out a yeast count
- monitoring the yeast propagation process
- storing yeast to maintain its health and viability.

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:

- different types and strains of yeast used to make fermented beverages, including wild yeast
- technical sheets for yeast products
- yeast culture propagation requirements, including time, temperature and nutrition
- how yeast grows
- good practice for yeast handling
- methods for carrying out a yeast count
- purpose and principles of propagating yeast cultures
- relationship of propagation to alcoholic fermentation
- stages and changes that occur during culture propagation
- effect of process stages on end product
- quality characteristics and uses of yeast cultures
- main methods used in propagating yeast for beer or spirit production

- the fermentation reaction for yeast cultures
- specific gravity of wort at different stages during fermentation
- techniques that may be used to manipulate the propagation process and end product characteristics, including:
 - temperature
 - yeast strain
 - wort stream
 - wort gravity
 - additions (nutrients)
 - oxygen
 - pitching rates
- process specifications, procedures and operating parameters relevant to beer or spirit yeast propagation
- equipment and instrumentation components, purpose and operation required for yeast propagation processes
- services used in brewer's or distiller's yeast propagation processes
- significance and method of monitoring control points within the process
- common causes of variation with equipment and corrective action required
- work health and safety hazards and controls for handling and propagating yeast processes
- waste handling requirements and procedures for yeast propagation processes
- recording requirements of yeast processing.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a beverage production workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - different varieties of yeast
 - propagation and fermentation equipment.

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

Links

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