



Australian Government

FBPBEV3002 Prepare and monitor beer yeast propagation processes

Release: 1

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Modification History

Release	Comments
Release 1	This version released with FBP Food, Beverage and Pharmaceutical Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to prepare and monitor beer yeast propagation processes.

This unit applies to workers who have responsibility for yeast propagation in the brewing industry. These individuals may have some responsibility for others, and address routine, predictable problems.

All work must be carried out to comply with workplace procedures, in accordance with state/territory health and safety and food safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Beverages (BEV)

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. Prepare for propagation	1.1 Identify and confirm propagation requirements 1.2 Wear appropriate personal protective clothing, and ensure correct fit

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.3 Prepare yeast cultures for use according to specifications 1.4 Confirm product and materials are available to meet propagation requirements 1.5 Prepare product to meet specified propagation requirements 1.6 Confirm propagation services are available and ready for operation
2. Prepare equipment for culture preparation	2.1 Check cleaning and sterilising equipment to confirm readiness for use 2.2 Select, clean and sterilise propagation equipment according to health, safety and food safety procedures 2.3 Select, clean and sterilise transfer equipment according to health, safety and food safety procedures 2.4 Start up the beer yeast propagation process according to workplace health and safety and operating requirements
3. Maintain and monitor the propagation process	3.1 Conduct transfer operations to meet propagation requirements 3.2 Conduct the culture propagation process according to workplace procedures 3.3 Make scale-up additions to ensure optimum performance 3.4 Monitor control points to confirm performance is maintained within specification 3.5 Monitor equipment to optimal operations 3.6 Identify, rectify and report out-of-specification product, process and equipment performance according to workplace procedures
4. Complete propagation activities	4.1 Complete the propagation process according to workplace procedures 4.2 Dismantle equipment and prepare for cleaning according to workplace requirements 4.3 Collect, treat and dispose of or recycle waste generated by both the process and cleaning procedures 4.4 Conduct work in accordance with workplace environmental guidelines 4.5 Record workplace information in the appropriate format according to workplace requirements

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 workplace and standard operating procedures relevant to job task - Interpret production requirements
Writing	Complete processing records using electronic, digital and/or paper-based formats
Numeracy	- Perform counts on samples using grids - Interpret and apply dilution ratios - Log and track yeast counts

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FBPBEV3002 Prepare and monitor beer yeast propagation processes	FBPOPR2003 Prepare and monitor beer yeast propagation processes	Unit sector updated to better match work task Code updated to better match complexity of work task Minor changes to Performance Criteria to clarify task Foundation Skills refined Performance Evidence clarified Minor changes to Knowledge Evidence to clarify requirements and Assessment Conditions	Equivalent

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 FBPBEV3002 Prepare and monitor beer yeast propagation processes

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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 prepared and monitored beer yeast propagation processes on at least one occasion, including:

- applying safe work practices
- following food safety procedures
- preparing product and materials, including:
 - culture yeast slopes
 - oxygenated wort
 - yeast nutrients
 - oxygen supply and sterilisation
 - wort heating
 - wort sterilisation
- confirming equipment status and condition, including checking:
 - cleaning and/or sterilisation requirements have been met
 - position and alignment of valves
 - integrity of door seals and small vessel tubing and condition of gas (oxy) filters
- monitoring the process and equipment operation to identify out-of-specification results or non-compliance, including sampling and checking:
 - temperature (wort)
 - wort gravity
 - wort oxygenation levels
 - yeast cell counts
 - yeast viability
 - weight
- taking corrective action in response to out-of-specification results or non-compliance.

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:

- 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
- product and materials preparation requirements, and the effect of variation on the process
- main methods used in propagating yeast for beer production
- the fermentation reaction for yeast cultures
- 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
- process specifications, procedures and operating parameters relevant to beer yeast propagation
- equipment and instrumentation components, purpose and operation required for beer yeast propagation processes
- basic operating principles of process control systems
- services used in the beer yeast propagation processes
- significance and method of monitoring control points within the process
- common causes of variation with equipment, and corrective action required
- health and safety hazards and controls for beer yeast propagation processes
- lock-out and tag-out procedures required for beer yeast propagation processes
- procedures and responsibility for reporting problems relating to the beer yeast propagation processes
- environmental issues and controls relevant to yeast propagation processes
- shutdown and cleaning requirements associated with changeovers, and types of shutdowns
- waste handling requirements and procedures for beer yeast propagation processes
- recording requirements and procedures for beer yeast propagation.

Assessment Conditions

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

- physical conditions:
 - a brewery or an environment that accurately represents workplace conditions

- resources, equipment and materials:
 - personal protective clothing and equipment
 - yeast propagation equipment and related services
 - yeast cultures
 - cleaning materials and equipment
- specifications:
 - work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements
 - recording requirements and procedures.

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

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