



Australian Government

FBPOPR2003 Prepare and monitor beer yeast propagation processes

Release: 1

FBPOPR2003 Prepare and monitor beer yeast propagation processes

Modification History

Release	Comments
Release 1	This version released with FBP Food, Beverage and Pharmaceutical Training Package Version 1.0

Application

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

This unit applies to individuals who work under general supervision and exercise limited autonomy in a food processing environment.

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

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

Pre-requisite Unit

Nil

Unit Sector

Operational (OPR)

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 1.3 Prepare yeast cultures for use according to specifications

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.4 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 work health and safety and food safety procedures 2.3 Select, clean and sterilise transfer equipment according to work health and safety and food safety procedures 2.4 Start up the beer yeast propagation process according to work 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 confirm operating condition 3.6 Identify, rectify and/or 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 role - Interpret production requirements
Writing	Record operating, routine maintenance and shutdown information on paper-based and electronic media
Numeracy	- Monitor and interpret production and process control indicators and data - Monitor supply and flow of materials to and from the process
Navigate the world of work	- Apply workplace procedures to own role and responsibilities - Identify skills, knowledge and experience required for performing own role in the workplace - Ask questions to clarify understanding or seek further information
Interact with others	- Communicate and report operational and safety information to relevant personnel - Use modes of communication suitable to purpose to confirm understanding when conducting operational start-up and shutdown procedures
Get the work done	- Access and interpret process control panels and system - Maintain a clean and hazard-free work area - Identify out-of-specification standards and maintain quality specifications - Confirm equipment status and condition - Interpret process and equipment information to monitor process and respond to abnormal performance and variations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FBPOPR2003 Prepare and monitor beer yeast propagation processes	FDFOP2074A Prepare and monitor beer yeast propagation processes	Updated to meet Standards for Training Packages	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 FBPOPR2003 Prepare and monitor beer yeast propagation processes

Modification History

Release	Comments
Release 1	This version released with FBP Food, Beverage and Pharmaceutical Training Package Version 1.0

Performance Evidence

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

There must be evidence that the individual has prepared and monitored beer yeast propagation processes on at least one occasion, including:

- accessing workplace information to identify culture propagation requirements
- selecting, fitting and using personal protective clothing and/or equipment
- confirming supply of necessary product, materials and services
- liaising with other work areas
- 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
- starting up the process
- 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

- monitoring supply and flow of product and materials to and from the process
- taking corrective action in response to out-of-specification results or non-compliance
- reporting and/or recording corrective action
- sorting, collecting, treating, recycling or disposing of waste
- shutting down equipment in response to an emergency situation
- shutting down equipment in response to routine shutdown requirements
- recording workplace information
- maintaining work area to meet housekeeping standards
- preparing equipment for cleaning, including draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for sanitation
- identifying, rectifying and/or reporting environmental non-compliance
- following relevant work health and safety procedures.

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
- work 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 processes.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - personal protective clothing and equipment
 - equipment, services and corresponding information
 - products and materials
 - cleaning procedures, materials and equipment
- specifications:
 - work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements
 - instructions, information, specifications and schedules
 - documentation and 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.

Links

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