

Modification history

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

FBPTEC4XX2	Manage wort production
Application	<p>This unit of competency describes the skills and knowledge required to manage the production of wort for a fermented beverage.</p> <p>This unit applies to those workers who have responsibility for overseeing the production wort for fermented beverages and the quality assurance requirements associated with those products. It may include supervising the work of others.</p> <p>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.</p>
Prerequisite Unit	Nil
Unit Sector	Technical (TEC)

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 to produce wort	1.1 Check quality of malt meets quality specifications 1.2 Identify specification for product 1.3 Identify hazards and manage risks associated with producing wort
2. Mill grain	2.1 Set mill to crush malted grain to specification 2.2 Carry out test run to ensure malt is crushed to specification 2.3 Ensure husk is left intact after milling 2.4 Operate mill to crush malt and produce grist
3. Convert mash	3.1 Transfer grist to mash tun 3.2 Set water level, temperature and time in line with product specification, to convert starches to sugars 3.3 Operate mash tun to produce and convert mash 3.4 Monitor quality of mash using simple tests 3.5 Analyse test results and adjust process as required
4. Lauter mash	4.1 Transfer mash into lauter tun 4.2 Set operating parameters of lauter tun to separate wort from grain husks 4.3 Operate lauter mash to produce wort 4.4 Monitor quality of wort using simple tests 4.5 Dispose of grain husks in line with environmental requirements 4.6 Complete processing and batch records to ensure traceability
5. Boil and cool wort	5.1 Pump wort into kettle 5.2 Set temperature of kettle for controlled boil 5.3 Add hops and adjuncts to influence flavour, in line with specifications 5.4 Monitor quality of wort using simple tests 5.5 Analyse test results and adjust process as required 5.6 Complete processing and batch records to ensure traceability
6. Separate and cool wort	6.1 Set operating parameters of equipment to separate wort from solid materials 6.2 Monitor quality of wort using simple tests 6.3 Analyse test results and adjust process as required 6.4 Cool wort ready for fermentation 6.5 Complete processing and batch records to ensure traceability

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
7. Conduct housekeeping activities	7.1 Clean equipment and work area in line with workplace procedures 7.2 Conduct routine maintenance activities 7.3 Dispose of waste in line with regulatory requirements

Foundation Skills	
<i>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.</i>	
Skill	Description
Numeracy	<ul style="list-style-type: none"> Accurately read and interpret gauges and test results Calculations to determine alcohol by volume (ABV) based on gravity change
Get the work done	<ul style="list-style-type: none"> Identify changes in quality of product and trace source

Unit Mapping Information			
Code and title current version	Code and title previous version	Comments	Equivalence status
FBPTEC4XX2 Manage wort production		New unit	No equivalent unit

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

TITLE	Assessment requirements for FBPTEC4XX2 Manage wort production
--------------	--

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 the production of wort to meet specifications, on at least one occasion.

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: <ul style="list-style-type: none"> • purpose of milling grain to expose starchy material in the husk • problems created from grain that is too heavily crushed or milled • stage and changes that occur during wort production • purpose of malt, hops, water, adjuncts and the preparation procedure • typical raw materials added to wort in kettle, including hops • quality characteristics and uses of end product and output • typical tests carried out on wort to check pH, alcohol, bitterness, colour, yeast count • instruments used for testing and how each is calibrated • procedures and equipment used for transfer operations, including pumps, membranes, hoses, valves, control instruments • emergency and troubleshooting procedures, including failure of services • process specification, procedures and operating parameters • equipment and instrumentation components, purpose and operation • sanitisation procedures and purpose • significance and method of monitoring control points within the equipment operation • common causes of variation and corrective action required • hazards and controls, including manual handling and working with ethanol • routine maintenance requirements • waste handling and disposal requirements • legislation, regulation and workplace licence requirements related to the production of alcohol, Australian Taxation Office (ATO) in relation to excise tax, waste disposal • recording requirements for traceability of product and Australian Taxation Office (ATO) regulations.

Assessment Conditions
Assessment of skills must take place under the following conditions: <ul style="list-style-type: none"> • physical conditions: <ul style="list-style-type: none"> • skills must be demonstrated in a workplace setting or an environment that accurately represents a real workplace • resources, equipment and materials: <ul style="list-style-type: none"> • raw materials for wort production • access to equipment for production of wort including mill, mash tun, lauter tun, (or a combined mas and lauter tun) kettle and whirlpool • testing equipment • specifications <ul style="list-style-type: none"> • product specifications. <p>Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.</p>

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