Hobnail. British Brown Ale (AG) 23L

Created: Saturday June 8th 2024

League of Brewers

Method: **All Grain** Style: **British Brown Ale** Boil Time: **60 min** Batch Size: **23 liters** (fermentor volume) Pre Boil Size: **28.06 liters**

Post Boil Size: **25 liters** Pre Boil Gravity: **1.044** (recipe based estimate) Post Boil Gravity: **1.050** (recipe based estimate) Efficiency: **75%** (brew house)

Source: **LoB Kits** Calories: **233 calories** (Per 500ml) Carbs: **25.7 g** (Per 500ml)

Original Gravity:	Final Gravity:	ABV (standard):	IBU (tinseth):	SRM (morey):	Mash pH	Cost $
1.050	**1.014**	**4.7%**	**30.0**	**19.2**	**5.5**	**n/a**

Fermentables

Amount	Fermentable	Cost	PPG	°L	Bill %
4.70 kg	Gladfield - NZ - Gladfield - Ale Malt		35.42	2.85	90.7%
0.16 kg	Gladfield - NZ - Gladfield - Dark Crystal Malt		35.88	100	3.1%
0.16 kg	Gladfield - NZ - Gladfield - Light Chocolate Malt		32.66	475	3.1%
0.16 kg	Gladfield - NZ - Gladfield - Medium Crystal Malt		35.88	52.5	3.1%

5.18 kg / $ 0.00

Hops

Amount	Variety	Cost	Type	AA	Use	Time	IBU	Bill %
20 g	Target		Pellet	11.5	Boil	30 min	20.51	28.6%
25 g	East Kent Goldings		Pellet	5.8	Boil	10 min	6.1	35.7%
25 g	East Kent Goldings		Pellet	5.8	Boil	5 min	3.35	35.7%

70 g / $ 0.00

Other Ingredients

Amount	Name	Cost	Type	Use	Time
4 g	Calcium Chloride (dihydrate)		Water Agt	Mash	1 hr.
4 g	Gypsum		Water Agt	Mash	1 hr.

Yeast

Lallemand - LALBREW® WINDSOR BRITISH-STYLE BEER YEAST

Amount: 2 Each **Cost:** **Attenuation (avg):** 70% **Flocculation:** Low **Optimum Temp:** 15 - 22 °C **Starter:** No

Fermentation Temp: 20 °C **Pitch Rate:** 0.5 *(M cells / ml / ° P)* 142 B cells required

Priming

CO_2 Level: 2.2 Volumes

Target Water Profile Balanced Profile

Ca^{+2} 74 **Mg^{+2}** 3 **Na^{+}** 10 **Cl^{-}** 68 **SO_4^{-2}** 74 **HCO_3^{-}** 45.7

Mash Guidelines

Amount	Description	Type	Start Temp	Target Temp	Time
14 L	Starch conversion	Strike	66 °C	66 °C	60 min
	Mash out	Temperature	66 °C	77 °C	15 min
19.3 L		Sparge	--	77 °C	--

Starting Mash Thickness: 2.7 L/kg
Starting Grain Temp: 20 °C

Quick Water Requirements

Water	Liters
Strike water volume at mash thickness of 2.7 L/kg	14
Mash volume with grains	17.4
Grain absorption losses	-5.2
Remaining sparge water volume	19.3
Pre boil volume	28.1
Boil off losses	-2.5
Hops absorption losses (first wort, boil, aroma)	-0.6
Post boil Volume	25
Kettle losses	-2
Going into fermentor	23
Total:	**33.2**
Equipment Profile Used:	G30

Notes

The suggested mineral additions for this recipe assume an average NZ water profile and should be fine for most NZ water sources. The target water profile in ppm is shown above.

1. This recipe is designed to include mineral additions in the mash. If you do not have scales, 1 flat tsp/4g each of gypsum and calcium chloride will be a close approximation. The mineral additions are also designed to help target a mash pH of ~5.4. Calcium is also essential for stabilising mash enzymes and for yeast health. The mineral additions are also very important for the flavour profile of the beer. If you do not have brewing salts in your home brewery, they are available for purchase on the LoB website and will last a great many brews for a small cost.

   Special note: There is no 60 min hop addition. Instead, the bittering hops are added at 30 min, for more hop presence at an equivalent IBU.

2. All of our hops are packaged in 50, 100 and 200 g packs. This means that for this recipe you will have an extra 30 g of Target hops. You may wish to use some of them to adjust the bittering if the current stocks of hops are a lower alpha acid %, and/or keep them for another brew.
3. If you wish (particularly if your system requires excessive sparging, below SG 1.012), add sufficient lactic acid to the sparge water to lower the pH to 5.6 prior to heating (~ 0.5 - 1.0 ml/10l lactic acid depending on water source).
4. We recommend you add kettle finings (whirlflock, Irish Moss) and yeast nutrient 15 min before the end of the boil.
5. Cool the wort to 18 deg C and promptly transfer to a fermenter.
6. We strongly recommend that the yeast be rehydrated in sterile warm water per the manufacturer's instructions. If not, you may lose up to 50% cell viability. Pitch into well aerated wort at 18 deg C and allow to rise to 20 deg C.
7. When the primary ferment is complete (~5-7 days), hold the fermentation temperature at 22 deg C for another 3 days.
8. When ready, rack the beer to a CO2 purged keg and force carbonate to around 2.5 vols CO2.