Last Orders. English IPA (AG) 23 L

League of Brewers

Created: Wednesday May 15th 2024

Method: **All Grain** Style: **English IPA** Boil Time: **60 min** Batch Size: **23 liters** (fermentor volume)

Pre Boil Size: **28.7 liters** Post Boil Size: **25 liters** Pre Boil Gravity: **1.057** (recipe based estimate)

Post Boil Gravity: **1.065** (recipe based estimate) Efficiency: **75%** (brew house) Source: **LoB Kits**

Calories: **303 calories** (Per 500ml) Carbs: **30 g** (Per 500ml)

Original Gravity:	Final Gravity:	ABV (standard):	IBU (tinseth):	SRM (morey):	Mash pH	Cost $
1.065	**1.015**	**6.6%**	**59.0**	**9.8**	**5.5**	**n/a**

Fermentables

Amount	Fermentable	Cost	PPG	°L	Bill %
5.70 kg	Bairds - GB - Bairds - Maris Otter Pale Ale		37.5	3.5	89.1%
0.30 kg	Gladfield - NZ - Gladfield - Medium Crystal Malt		35.88	52.55	4.7%
0.20 kg	Gladfield - NZ - Gladfield - Gladiator Malt		37.72	4	3.1%
0.20 kg	Gladfield - NZ - Gladfield - Biscuit Malt		34.04	32.5	3.1%

6.40 kg / $ 0.00

Hops

Amount	Variety	Cost	Type	AA	Use	Time	IBU	Bill %
100 g	Fuggle (UK)		Pellet	4.6	Boil	60 min	45.43	40%
25 g	East Kent Goldings		Pellet	4.7	Boil	10 min	4.43	10%
25 g	Fuggles (UK)		Pellet	4.6	Boil	10 min	4.33	10%
25 g	East Kent Goldings		Pellet	4.7	Boil	5 min	2.44	10%
25 g	Fuggles (UK)		Pellet	4.6	Boil	5 min	2.38	10%
50 g	East Kent Goldings		Pellet	4.7	Dry Hop at 22 °C	3 days		20%

250 g / $ 0.00

Other Ingredients

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

Yeast

Fermentis - Safale - English Ale Yeast S-04

Amount: 2 Each **Cost:** **Attenuation (avg):** 75% **Flocculation:** High

Optimum Temp: 12 - 25 °C **Starter:** No

Fermentation Temp: - **Pitch Rate:** 0.75 *(M cells / ml / ° P)* 274 B cells required

Priming

Method: co2 Amount: 1.91 bar Temp: 20 °C CO_2 Level: 2.5 Volumes

Target Water Profile Balanced Profile

Ca^{+2} 84 **Mg^{+2}** 3 **Na^{+}** 10 **Cl^{-}** 65 **SO_4^{-2}** 102.4 **HCO_3^{-}** 40

Mash Guidelines

Amount	Description	Type	Start Temp	Target Temp	Time
17.3 L	Starch conversion.	Infusion	--	66 °C	60 min
	Mash out	Temperature	66 °C	76 °C	15 min
17.8 L		Sparge	--	78 °C	--

Starting Mash Thickness: 2.7 L/kg

Quick Water Requirements

Water	Liters
Strike water volume at mash thickness of 2.7 L/kg	17.3
Mash volume with grains	21.5
Grain absorption losses	-6.4
Remaining sparge water volume (equipment estimates 18.2 L)	17.8
Pre boil volume (equipment estimates 29.1 L)	28.7
Boil off losses	-2.5
Hops absorption losses (first wort, boil, aroma)	-1.6
Post boil Volume	25
Kettle losses	-2
Going into fermentor	23
Total:	**35.1**
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 ~5.5. 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.
2. 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).
3. To avoid blockages and/or large amounts of hop being transferred to your fermenter, it is a good idea to use a hop bag or similar for all late hop additions (i.e. 10 and 5 min).
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 20 deg C for another 5 days, before raising the temperature to 22 deg for 3 days of dry hopping.
8. When ready, rack the beer to a CO2 purged keg and force carbonate to around 2.5 vols CO2.