Twenty Thousand Leagues (AG) 23L

Created Saturday May 20th 2023

League of Brewers

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

Pre Boil Size: **28.5 liters** Pre Boil Gravity: **1.053** (recipe based estimate) Post Boil Gravity: **1.066** (recipe based estimate)

Efficiency: **75%** (brew house) Source: **LoB Kits** Calories: **305 calories** (Per 500ml) Carbs: **27 g** (Per 500ml)

Original Gravity:	Final Gravity:	ABV (standard):	IBU (tinseth):	SRM (morey):	Mash pH	Cost $
1.066	**1.012**	**7.1%**	**68.0**	**30.2**	**5.5**	**n/a**

Fermentables

Amount	Fermentable	Cost	PPG	°L	Bill %
5.90 kg	Gladfield - NZ - Gladfield - Ale Malt		35.42	2.8	86.9%
0.25 kg	Gladfield - NZ - Gladfield - Eclipse Roasted Wheat		34	750	3.7%
0.34 kg	Gladfield - NZ - Gladfield - Gladiator Malt		37.72	4	5%
0.30 kg	Gladfield - NZ - Gladfield - Medium Crystal Malt		35.88	52.5	4.4%

6.79 kg / $ 0.00

Hops

Amount	Variety	Cost	Type	AA	Use	Time	IBU	Bill %
12 g	Chinook		Pellet	11.5	Boil	60 min	14.83	4.2%
25 g	Simcoe		Pellet	11.2	Boil	10 min	10.91	8.7%
25 g	Chinook		Pellet	11.5	Boil	10 min	11.2	8.7%
25 g	Mosaic		Pellet	12.5	Boil	10 min	12.17	8.7%
25 g	Simcoe		Pellet	11.2	Boil	5 min	6	8.7%
25 g	Chinook		Pellet	11.5	Boil	5 min	6.16	8.7%
25 g	Mosaic		Pellet	12.5	Boil	5 min	6.69	8.7%
25 g	Simcoe		Pellet	11.2	Boil	0 min		8.7%
25 g	Chinook		Pellet	11.5	Boil	0 min		8.7%
50 g	Mosaic		Pellet	12.5	Boil	0 min		17.4%
25 g	Simcoe		Pellet	11.2	Dry Hop	0 days		8.7%

287 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 - American Ale Yeast US-05

Amount: 2 Each **Cost:** **Attenuation (avg):** 81% **Flocculation:** Medium **Optimum Temp:** 12 - 25 °C **Starter:** No

Fermentation Temp: - **Pitch Rate:** 0.35 *(M cells / ml / ° P)* 130 B cells required

Priming

CO_2 Level: 4.04 Volumes

Target Water Profile Balanced Profile

Ca^{+2} 85.1 **Mg^{+2}** 3 **Na^{+}** 10 **Cl^{-}** 65.9 **SO_4^{-2}** 104 **HCO_3^{-}** 40

Mash Guidelines

Amount	Description	Type	Start Temp	Target Temp	Time
16.3 L		Strike	74 °C	67 °C	60 min
18.2 L		Sparge	--	78 °C	--

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

Notes

The suggested mineral additions assume an average NZ water profile and should be fine for most NZ water sources. The target (balanced) 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 designed to target an optimal mash pH of 5.4-5.5. 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, these are available for purchase on The League of Brewers website and will last a great many brews for a small cost.

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 13 g of Chinook. You may choose to adjust the IBU's if the current stocks of hops have lower AAU percentages than those stated in the recipe, 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 adding kettle finings (whirlflock, Irish Moss) and yeast nutrient 15 min before the end of boil.
5. Quickly cool the wort to 18C 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 18C and allow the temperature to rise to 20C.

   7.When the ferment is obviously slowing , add the dry hop and hold the temperature at 20C for a further 5 days, then raise it to 22 deg for 2 days before cold crashing.
7. When ready, rack the beer to a CO2 purged keg and force carbonate.