Prophecy Pale Ale (AG) 23L

Created: Saturday August 12th 2023

Cell Division

Method: **All Grain** Style: **American Pale Ale** Boil Time: **60 min** Batch Size: **23 liters** (fermentor volume)

Pre Boil Size: **28.5 liters** Post Boil Size: **25 liters** Pre Boil Gravity: **1.051** (recipe based estimate)

Post Boil Gravity: **1.058** (recipe based estimate) Efficiency: **75%** (brew house) Source: **LoB kits**

Calories: **267 calories** (Per 500ml) Carbs: **23.1 g** (Per 500ml)

Original Gravity:	Final Gravity:	ABV (standard):	IBU (tinseth):	SRM (morey):	Mash pH	Cost $
1.058	**1.010**	**6.3%**	**44.9**	**4.8**	**5.3**	**n/a**

Fermentables

Amount	Fermentable	Cost	PPG	°L	Bill %
0.60 kg	New Zealand - Vienna Malt		39.1	3.45	10.1%
5 kg	Gladfield - Gladfield - NZ - American Ale Malt		35.88	2.5	84%
0.15 kg	Gladfield - NZ - Gladfield - Sour Grapes Malt		12	2	2.5%
0.20 kg	Gladfield - Wheat Malt		37.26	2.05	3.4%

5.95 kg / $ 0.00

Hops

Amount	Variety	Cost	Type	AA	Use	Time	IBU	Bill %
25 g	Southern Cross		Pellet	11.2	Boil	60 min	30.72	14.3%
25 g	Motueka		Pellet	8	Boil	10 min	7.96	14.3%
25 g	Riwaka		Pellet	6.3	Boil	10 min	6.26	14.3%
25 g	Motueka		Pellet	8	Boil	0 min		14.3%
25 g	Riwaka		Pellet	6.3	Boil	0 min		14.3%
50 g	Kohia hop blend		Pellet	7.9	Dry Hop	3 days		28.6%

175 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: 20 °C **Pitch Rate:** 0.5 *(M cells / ml / ° P)* 164 B cells required

Priming

CO_2 Level: 2.7 Volumes

Target Water Profile Light colored and hoppy

Ca^{+2} 72.3 **Mg^{+2}** 0 **Na^{+}** 0 **Cl^{-}** 56.1 **SO_4^{-2}** 97.3 **HCO_3^{-}** 0

Mash Guidelines

Amount	Description	Type	Start Temp	Target Temp	Time
15.9 L	Heat water to 70 deg	Infusion	66 °C	66 °C	60 min
18.5 L		Sparge	78 °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	16.1
Mash volume with grains	20
Grain absorption losses	-6
Remaining sparge water volume	18.4
Pre boil volume	28.5
Boil off losses	-2.5
Hops absorption losses (first wort, boil, aroma)	-1
Post boil Volume	25
Kettle losses	-2
Going into fermentor	23
Total:	**34.5**
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 ~5.2-5.3. 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 0 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 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 2.7 vols CO2.