Chameleon. American IPA (AG) 23 L

Created: Saturday November 9th 2024

League of Brewers

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

Pre Boil Size: **29.02 liters** Post Boil Size: **25 liters** Pre Boil Gravity: **1.053** (recipe based estimate)

Post Boil Gravity: **1.061** (recipe based estimate) Efficiency: **75%** (brew house) Source: **LoB Kits**

Calories: **282 calories** (Per 500ml) Carbs: **24.8 g** (Per 500ml)

Original Gravity:	Final Gravity:	ABV (standard):	IBU (tinseth):	SRM (morey):	Mash pH	Cost $
1.061	**1.011**	**6.6%**	**61.6**	**7.9**	**5.2**	**n/a**

Fermentables

Amount	Fermentable	Cost	PPG	°L	Bill %
5.60 kg	Gladfield - NZ - Gladfield - American Ale Malt		35.88	2.57	88.2%
0.15 kg	Gladfield - NZ - Gladfield - Sour Grapes Malt		12	2	2.4%
0.30 kg	Gladfield - NZ - Gladfield - Gladiator Malt		37.72	3.25	4.7%
0.30 kg	Gladfield - NZ - Gladfield - Medium Crystal Malt		35.4	52.5	4.7%

6.35 kg / $ 0.00

Hops

Amount	Variety	Cost	Type	AA	Use	Time	IBU	Bill %
15 g	Mosaic		Pellet	13.8	Boil	60 min	22.3	6%
25 g	Krush		Pellet	12.2	Boil	10 min	11.91	10%
25 g	Mosaic		Pellet	13.8	Boil	10 min	13.47	10%
25 g	Krush		Pellet	12.2	Boil	5 min	6.55	10%
25 g	Mosaic		Pellet	13.8	Boil	5 min	7.41	10%
50 g	Krush		Pellet	12.2	Whirlpool at 76 °C	20 min		20%
35 g	Mosaic		Pellet	13.8	Whirlpool at 76 °C	20 min		14%
50 g	Krush		Pellet	12.2	Dry Hop (High Krausen)	7 days		20%

250 g / $ 0.00

Other Ingredients

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

Yeast

Lallemand - LalBrew Pomona

Amount: 2 Each **Cost:** **Attenuation (avg):** 80% **Flocculation:** Medium

Optimum Temp: 18 - 22 °C **Starter:** No

Fermentation Temp: - **Pitch Rate:** 0.75 *(M cells / ml / ° P)* 258 B cells required

Priming

Method: co2 Amount: 0.97 bar Temp: 4 °C CO_2 Level: 2.7 Volumes

Target Water Profile Light colored and hoppy

Ca^{+2} 110 **Mg^{+2}** 3 **Na^{+}** 10 **Cl^{-}** 78 **SO_4^{-2}** 150 **HCO_3^{-}** 0

Mash Guidelines

Amount	Description	Type	Start Temp	Target Temp	Time
17.1 L	Starch conversion	Strike	68 °C	65 °C	60 min
	Mash out	Temperature	--	77 °C	--
18.2 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	17.1
Mash volume with grains (equipment estimates 20.7 L)	21.3
Grain absorption losses	-6.4
Remaining sparge water volume (equipment estimates 17.6 L)	18.2
Pre boil volume (equipment estimates 28.4 L)	29
Boil off losses	-2.5
Hops absorption losses (first wort, boil, aroma)	-0.9
Post boil Volume	25
Kettle losses	-2
Hops absorption losses (whirlpool, hop stand)	-0.7
Top off amount	0.7
Going into fermentor	23
Total:	**35.4**
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. 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 including the whirlpool hops
4. We recommend you add kettle finings (whirlflock, Irish Moss) and yeast nutrient 15 min before the end of the boil.
5. Immediately after the end of the boil, chill the wort to 76 deg C, whirlpool and add the whirlpool hops. Hold the temperature at 76 deg for 20 minutes before finally cooling the the wort to 18 deg C and transferring it 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. To achieve the desired results, the dry hops must be added at high krausen. This approach will not only reduce the chance of oxygen ingress spoiling the beer, but also gives the Pomona yeast the best opportunity to do it's job of enhancing aroma, via the bio-transformation of hop terpenes.
8. When the primary ferment is complete (~7 days), raise the temperature to 22 deg for 2-3 days diacetyl rest.
9. When ready, rack the beer to a CO2 purged keg, chill and force carbonate to around 2.7 vols CO2.