Fields Of Gold (AG) 23L

Created: Wednesday September 13th 2023

League of Brewers

Method: **All Grain** Style: **American Wheat Beer** Boil Time: **90 min** Batch Size: **23 liters** (fermentor volume)

Pre Boil Size: **29.55 liters** Post Boil Size: **25 liters** Pre Boil Gravity: **1.045** (recipe based estimate)

Post Boil Gravity: **1.053** (recipe based estimate) Efficiency: **75%** (brew house) Calories: **246 calories** (Per 500ml)

Carbs: **24.2 g** (Per 500ml)

Original Gravity:	Final Gravity:	ABV (standard):	IBU (tinseth):	SRM (morey):	Mash pH	Cost $
1.053	**1.012**	**5.3%**	**23.8**	**3.8**	**5.4**	**n/a**

Fermentables

Amount	Fermentable	Cost	PPG	°L	Bill %
2.60 kg	Gladfield - NZ - Gladfield - Pilsner Malt		36.65	2	48.5%
2.60 kg	Gladfield - NZ - Gladfield - Wheat Malt		37.26	2.05	48.5%
0.16 kg	Gladfield - NZ - Gladfield - Sour Grapes Acid Malt		12	2	3%

5.36 kg / $ 0.00

Hops

Amount	Variety	Cost	Type	AA	Use	Time	IBU	Bill %
10 g	Cascade (US)		Pellet	7.2	Boil	60 min	8.33	10%
20 g	Cascade (US)		Pellet	7.2	Boil	10 min	6.04	20%
25 g	Willamette (NZ)		Pellet	9	Boil	10 min	9.44	25%
20 g	Cascade (US)		Pellet	7.2	Boil	0 min		20%
25 g	Willamette (NZ)		Pellet	9	Boil	0 min		25%

100 g / $ 0.00

Other Ingredients

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

Yeast

Lallemand - LALBREW® BRY-97 WEST COAST ALE YEAST

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

Optimum Temp: 15 - 22 °C **Starter:** No

Fermentation Temp: - **Pitch Rate:** 0.75 *(M cells / ml / ° P)* 226 B cells required

Priming

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

Target Water Profile Light colored and hoppy

Ca^{+2} 90 **Mg^{+2}** 3 **Na^{+}** 10 **Cl^{-}** 51 **SO_4^{-2}** 134 **HCO_3^{-}** 0.1

Mash Guidelines

Amount	Description	Type	Start Temp	Target Temp	Time
14.5 L		Infusion	66 °C	66 °C	60 min
20.5 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	14.5
Mash volume with grains	18

Water	Liters
Grain absorption losses	-5.4
Remaining sparge water volume	20.4
Pre boil volume	29.6
Boil off losses	-3.8
Hops absorption losses (first wort, boil, aroma)	-0.8
Post boil Volume	25
Kettle losses	-2
Going into fermentor	23
Total:	**34.9**
Equipment Profile Used:	G30

Notes

The suggested mineral additions 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 designed to target an optimal 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, these are available for purchase on The League of Brewers 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. We recommend adding yeast nutrient 15 min before the end of boil.
4. Quickly cool the wort to 18C and promptly transfer to a fermenter.
5. 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 20C and allow the temperature to rise to 22C. Note that LalBrew Köln™ yeast can be slower to both start and finish than many ale yeasts. This is normal and should not cause alarm. Be patient.
6. When the primary ferment is complete (>1 week), hold the fermentation temperature at 22 deg C, allowing the beer to mature for around 7 days. Wait it out if needed. Two-three weeks from start to finish is a good rule of thumb.
7. When ready, rack the beer to a CO2 purged keg and force carbonate to around 2.5 vols.