Dark Star. Dark Saison. (AG) 23 L

Created: Wednesday May 29th 2024

League of Brewers

Method: **All Grain** Style: **Saison** Boil Time: **90 min** Batch Size: **23 liters** (fermentor volume) Pre Boil Size: **27.55 liters**

Post Boil Size: **23 liters** Pre Boil Gravity: **1.047** (recipe based estimate) Post Boil Gravity: **1.056** (recipe based estimate)

Efficiency: **75%** (brew house) Source: **Jamie McQuillan** Calories: **255 calories** (Per 500ml) Carbs: **17.3 g** (Per 500ml)

Original Gravity:	Final Gravity:	ABV (standard):	IBU (tinseth):	SRM (morey):	Mash pH	Cost $
1.056	**1.005**	**6.6%**	**33.3**	**25.0**	**5.3**	**n/a**

Fermentables

Amount	Fermentable	Cost	PPG	°L	Bill %
3 kg	Gladfield - NZ - Gladfield - Pilsner Malt		35.65	1.9	51.3%
1.50 kg	Gladfield - NZ - Gladfield - Vienna Malt		35.42	3.4	25.6%
0.50 kg	Gladfield - NZ - Gladfield - Wheat Malt		37.26	2.05	8.5%
0.30 kg	Weyermann - DE - Caraffa Special II (Weyermann)		32	450	5.1%
0.15 kg	Gladfield - NZ - Red Back (Gladfields)		35.88	32.5	2.6%
0.30 kg	Gladfield - NZ - Medium Crystal (Gladfield)		35.88	52.5	5.1%
0.10 kg	Gladfield - NZ - Gladfield - Sour Grapes Acid Malt		12	2	1.7%

5.85 kg / $ 0.00

Hops

Amount	Variety	Cost	Type	AA	Use	Time	IBU	Bill %
25 g	Saaz		Pellet	3.6	First Wort	0 min	12.03	25%
15 g	East Kent Goldings		Pellet	4.7	Boil	90 min	8.57	15%
10 g	East Kent Goldings		Pellet	4.7	Boil	30 min	4.1	10%
25 g	East Kent Goldings		Pellet	4.7	Boil	10 min	4.84	25%
25 g	Saaz		Pellet	3.6	Boil	10 min	3.71	25%

100 g / $ 0.00

Other Ingredients

Amount	Name	Cost	Type	Use	Time
1 tsp	Irish Moss		Fining	Boil	15 min.
4 g	Calcium Chloride (dihydrate)		Water Agt	Mash	1 hr.
4 g	Gypsum		Water Agt	Mash	1 hr.

Yeast

Mangrove Jack - French Saison Ale M29

Amount: 2 Each **Cost:** **Attenuation (avg):** 87.5% **Flocculation:** Medium **Optimum Temp:** 26 - 32 °C **Starter:** No

Fermentation Temp: 26 °C **Pitch Rate:** 0.75 *(M cells / ml / ° P)* 238 B cells required

Priming

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

Target Water Profile Balanced Profile

Ca^{+2} 75 **Mg^{+2}** 3 **Na^{+}** 10 **Cl^{-}** 70 **SO_4^{-2}** 76 **HCO_3^{-}** 0

Mash Guidelines

Amount	Description	Type	Start Temp	Target Temp	Time
15.8 L	Starch conversion	Infusion	--	65 °C	60 min
	Mash out. Optional for those who have the capacitity and/or experience lautering issues on their system.	Temperature	65 °C	76 °C	15 min
17.6 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 ~5.3 without the need for larger amounts of acidulated malt. 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. We recommend you add kettle finings (whirlflock, Irish Moss) and yeast nutrient 15 min before the end of boil.
4. Cool the wort to 20 deg C and promptly transfer to a fermenter.
5. Pitch the yeast into well aerated wort at 22 deg C and allow to rise/or raise temperature to 26 deg C. Note that this is the low end of the ideal fermentation temperature for M29. A little cooler or warmer should not cause any issues, most importantly, a stable upper temperature is highly recommended, particularly during the active fermentation period.
6. When the primary ferment is complete, hold the fermentation temperature at 24-26 deg C for 10-14 days. Three weeks from start to finish is a good rule of thumb. It is likely that there will be no need to crash cool your beer. Time is your friend.
7. When ready, rack the beer to a CO2 purged keg and force carbonate to around 2.7 vols CO2. Alternatively, bottle or keg conditioning with priming sugar is a very rewarding option for a farmhouse style of beer such as this. Do not cold crash/clarify if you choose this option and do not rush the beer. A stable finishing gravity is a must (one week for clean beers is a good safety margin) and use a priming calculator to target around 2.7 vols C02.