

BS028 1850 Imperial Brown Stout

Imperial Stout (20 C)

Type: All Grain
Batch Size: 25.00 l
Boil Size: 36.12 l
Boil Time: 120 min
End of Boil Vol: 29.12 l
Final Bottling Vol: 24.00 l
Fermentation: Ale, Two Stage

Date: 24 Mar 2016
Brewer: Charles Tucker
Asst Brewer:
Equipment: My Braumeister 50L
Efficiency: 53.00 %
Est Mash Efficiency: 60.8 %
Taste Rating: 30.0



Taste Notes:

Prepare for Brewing

- Clean and Prepare Brewing Equipment
- Total Water Needed: 47.99 l

Mash or Steep Grains

Mash Ingredients

Amt	Name	Type	#	%/IBU
8.00 kg	Pale Malt, Maris Otter (Warminster Maltings) (4.5 EBC)	Grain	1	60.2 %
2.00 kg	Brown Malt (Brew UK) (105.0 EBC)	Grain	2	15.0 %
1.10 kg	Amber Malt (Brew UK) (65.0 EBC)	Grain	3	8.3 %
0.25 kg	Black Malt (BrewUK) (1300.2 EBC)	Grain	4	1.9 %

Mash Steps

Name	Description	Step Temperature	Step Time
Mash In	Add 45.00 l of water at 75.8 C	68.0 C	120 min
Mash Out	Add 0.01 l of water and heat to 77.0 C over 10 min	77.0 C	10 min

- Fly sparge with 2.97 l water at 76.0 C
- Add water to achieve boil volume of 36.12 l
- Estimated pre-boil gravity is 1.070 SG

Boil Ingredients

Amt	Name	Type	#	%/IBU
130.00 g	Challenger (BrewUK) [7.66 %] - Boil 120.0 min	Hop	5	74.5 IBUs
20.00 g	Challenger (The Malt Miller) [6.60 %] - Boil 120.0 min	Hop	6	9.9 IBUs
150.00 g	East Kent Goldings (Brew UK) [5.18 %] - Boil 30.0 min	Hop	7	41.0 IBUs
1.00 kg	Piloncillo Sugar [Boil for 20 min](20.0 EBC)	Dry Extract	8	7.5 %
0.50 Items	Protofloc Tablet (Boil 15.0 mins)	Fining	9	-
0.20 kg	Black Malt (Thomas Fawcett) [Boil for 10 min](1300.2 EBC)	Dry Extract	10	1.5 %

- Estimated Post Boil Vol: 29.12 l and Est Post Boil Gravity: 1.101 SG

Cool and Transfer Wort

- Cool wort to fermentation temperature
- Transfer wort to fermenter
- Add water if needed to achieve final volume of 25.00 l

Pitch Yeast and Measure Gravity and Volume

Fermentation Ingredients

Amt	Name	Type	#	%/IBU
2.0 pkg	London Ale Yeast (Wyeast Labs #1028) [124.21 ml]	Yeast	11	-
0.50 kg	Light Spraymalt Muntons (12.0 EBC)	Dry Extract	12	3.8 %
0.25 kg	Cane Sugar Unrefined (Billington's) (3.9 EBC)	Sugar	13	1.9 %

- Measure Actual Original Gravity _____ (Target: 1.101 SG)
- Measure Actual Batch Volume _____ (Target: 25.00 l)
- Add water if needed to achieve final volume of 25.00 l

Fermentation

- 24 Mar 2016 - Primary Fermentation (7.00 days at 18.0 C ending at 18.0 C)
- 31 Mar 2016 - Secondary Fermentation (10.00 days at 18.0 C ending at 18.0 C)

Secondary Ingredients

Amt	Name	Type	#	%/IBU
1.0 pkg	Brettanomyces Claussenii (White Labs #WLP645) [50.28 ml] [A...	Yeast	14	-

Dry Hop and Bottle/Keg
Dry Hop/Bottling Ingredients

Amt	Name	Type	#	%/IBU
25.00 g	East Kent Goldings (Brew UK) [6.76 %] - Dry Hop 7.0 Days	Hop	15	0.0 IBUs

- Measure Final Gravity: _____ (Estimate: 1.025 SG)
- Date Bottled/Kegged: 10 Apr 2016 - Carbonation: Bottle with 141.17 g Corn Sugar
- Age beer for 200.00 days at 18.0 C
- 27 Oct 2016 - Drink and enjoy!

Notes

Target: Sparge pH 5.5, alkalinity 24.6. Mash pH 5.5, alkalinity 110.

Water profile:

Water treated with brewing salts to: Ca=50, Mg=10, Na=16, Cl=70, S04=70

Mash was very stiff, so mash liquor increased to 45L. Sparge adjusted to 5L. Mash pH 5.26 after 25 mins.

43L of wort after sparge & pH was 5.21.

The Lactic acid I used was supposed to be 80%, but instead of a calculated 2.69 in sparge I used 15.69ml in 40L. This gave an alkalinity of 74 and a ph of 5.39.

Mash water no grain 28ml of HCl and 8.60ml of H2SO4. This gave alkalinity of 125 and pH of 6.48.