

100: MOOP Brown Ale Mk3

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Category: 10 – American Ale
Subcategory: C – American Brown Ale



Kettle Volume: 7.22 gal (9.96 °P) Efficiency: 79.18%
Boil Duration: 1.25 h Attenuation: 73.1%
Evaporation: 1.0 gal Evap./Hour: 0.8 gal
Water Volume Added: 0.0 gal
Final Volume: 6.0 gal (11.9 °P)

Ingredients:

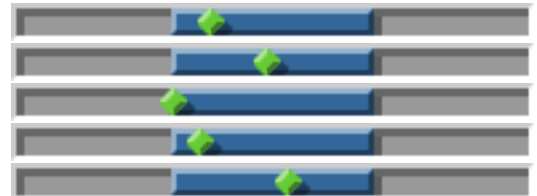
7.5 lb (71.4%) Premium 2-Row Malt; Great Western
1.0 lb (9.5%) Organic Munich; Great Western
0.5 lb (4.8%) Biscuit Malt (Mout Roost 50); Dingemans
0.75 lb (7.1%) Medium Crystal; Pauls Malt
0.25 lb (2.4%) Extra Dark Crystal; Pauls Malt
6.0 oz (3.6%) Pale Chocolate Malt; Thomas Fawcett
2.0 oz (1.2%) Chocolate Malt; Thomas Fawcett
20.0 g (25.0%) Columbus (14.2%) – added during boil, boiled 60 m
15.0 g (18.8%) Centennial (8.7%) – added during boil, boiled 15 m
15.0 g (18.8%) Willamette (4.7%) – added during boil, boiled 15 m
0.5 ea Whirlfloc Tablets (Irish moss) – added during boil, boiled 15 m
15.0 g (18.8%) Centennial (8.7%) – steeped after boil
15.0 g (18.8%) Willamette (4.7%) – steeped after boil
65 g WYeast 1056 American Ale™
8.0 mL BioFine Clear A3 – added dry to secondary fermenter

Water:

8.3 gal Durango, CO
6.0 g Calcite (Calcium Carbonate)
4.0 g Calcium Chloride (Calcium Chloride (anhydrous))
2.0 g Gypsum (Calcium Sulfate)

Style:

Recipe	Guideline
Original Gravity: 11.9 °P	11.18 – 14.72
Terminal Gravity: 3.3 °P	2.56 – 4.08
Color: 18.3 SRM	18.0 – 35.0
Alcohol: 4.59%	4.3% – 6.2%
Bitterness: 31.8	20.0 – 40.0



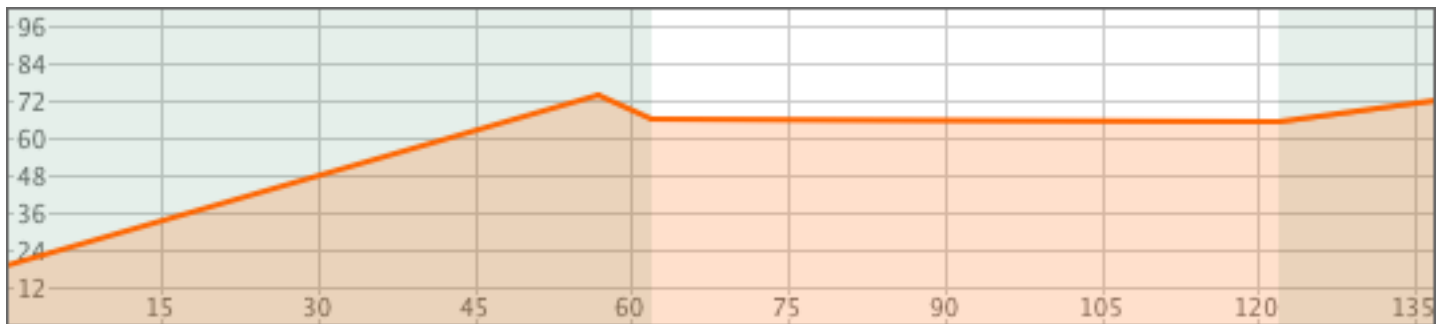
Analysis:

Apparent	Real	Weight	Calories
Original Extract: 11.9 °P	11.9 °P	Alcohol: 17.25 g	119.02 kcal
Attenuation: 73.1%	58.7%	Carbs: 23.09 g	87.73 kcal
Terminal Extract: 3.3 °P	4.92 °P	Protein: 1.62 g	6.46 kcal
% Alcohol: 4.59% ABV	3.6% ABW		Total: 213.21 kcal

Schedule:

Ambient Air: 20 °C
Source Water: 12 °C
Elevation: 6600 ft

	Elapsed	Thickness	Final Temp.	Available
61.9 m Mash In <i>Liquor: 4.75 gal</i> <i>Strike: 75.33 °C</i> <i>Target: 67.0 °C</i>	01:01:53	3.78 L/kg	67.0 °C	3.49 gal
60 m Saccharification Rest <i>Rest: 60 m</i> <i>Final: 66.4 °C</i>	02:01:53	3.78 L/kg	66.4 °C	3.49 gal
15.0 m Batch Sparge <i>Sparge #1</i> <i>Volume: 3.54 gal</i> <i>Temperature: 85 °C</i> <i>Duration: 15 m</i> <i>Total Runoff: 7.13 gal</i>	02:16:53	0.0 L/kg	73.5 °C	0.0 gal



Carbonation:

Natural Conditioning
Beer Temp: 68.0 °F
Priming Agent Rate: 4.02 g/L
Priming Agent Mass: 134.0 g
Volumes CO2: 2.4

Forced Carbonation
Beer Temp: 30 °C
Pressure: 36.62 PSI
Volumes CO2: 2.4

Volume Adjustments:

-100 mL Kettle
-.25 gal Fermenter

Notes:

CaCO3 in mash; CaCl2/CaSO4 in boil. Mash pH ~5.4, temperature 67.5°C.
1R: 3.1 gal, 18.4°P; 2R: 3.7 gal, 5.8°P.
Pre-boil: 6.8 gal, 11.3°P. Added 1 qt cold H2O.
Post-boil: 6.0 gal, 11.9°P.
10 min whirlpool, 20 min hot stand. 34 min KO (70°F).
Pitched 15 mL fresh slurry and 50 mL ~2 month slurry (brewery harvests) on day 1.
Pitched at 18°C; ramped to 22°C on day 6. Crashed to ~5°C on day 11; kegged on day 12.