

Brown Ale - #160

Description [See Brew.XLS](#)

American Brown Ale. Based on [#155](#), [#146](#). Judy's Brown Ale. Makes 12 gal. in fermenters, 7.1 % (v/v) alcohol, Rager 45, not usual 55 IBU, and 232 calories in 12 oz. Skipped all sugar adjuncts, due to new base malt. See #1xx next.

Brew (Brew day takes ~9 hr, see page 1 for mashing details)

- 1) **Yeast**, use Chico yeast, this one was 4 packs Safale US-05, rehydrate*
- 2) **C Filter** 22 gal H₂O day before. Also, add 1 Campden tablet per 20 gal. the night before (1.1 tablets in 3 places.)
- 3) **Grain Bill** (29.3 lb. total grain, & 0.75 lb. sugars) based on 71% extract efficiency (got 84%). 32 oz. Rolled Oats toasted on tray in oven 350°F for 30 - 45 min, until smelled good + some, like baking cookies (per Randy Mosher, Zymurgy), 35 min. in bottom oven, this time, 2 lb. is deep in tray, not very dark.
21 lb. **Briess Brewer's Malt (42%)** 1.75 lb. Rye (5%) 32 oz. toasted rolled oats (5.7%) 1/3 lb. 25L Melanoidin (0.9%)
12 oz. Acidulated Malt (3%) 1.25 lb. 60L Crystal (3.6%) 1 lb. Special B (~150L, 2.9%)
1 lb. Pale Choc. 217L (2.9%) 0 lb. Cane Sugar (0%) 0 lb. Brown Sugar (0%) 0 lb. Molasses (0%) \$40.00
- 4) **Mash-In** – 1x infusion, heat 11 gal. H₂O to 171°F, for 146-150°F, use 1.25 qt./lb., pump 9.1 gal of 163°F strike H₂O, for 29.3 lb. malt, 147°F Mash-In, hold 45 min. (this one 164°F strike, almost 2 gal. excess H₂O, needed 2.5 qt. RT, 151 to 148°F for 55 min.).
- 5) **Water Adjustment** - 0 min. into Mash, add 2.5 gm. Gypsum, CaSO₄, 2 gm. Ca Chloride, CaCl₂, & 3 gm. Epsom Salts, MgSO₄, no 2.0, 1.6, 2.4 gm. added to mash before adding remaining 1.5 gal.(not 7.4 gal.) of 16.5 gal. mash water (to get 14.5 gal. in brew pot), so; 70 ppm Ca, 14 ppm Mg, 41 ppm SO₄, 75 ppm Cl, 35 ppm Na. SO₄/Cl=0.5
Took pH sample 24 min. in, got pH = 5.5, after lautering, pH = 5.3, also pH = 5.2 after boil. OK, use same 2.6% Acid malt next time. [EZ water Calculator-JBA160.xls](#) says 5.5, got 5.3
- 6) **Mash-Out** Add 4.8 gal. near boiling H₂O quick, for 165-170°F, only room for 2 gal., 165°F actual. Vorlauf. to clarify, 5 min.
- 7) **Sparge** – At 165-170°F, collect 14.3 gal. 1st batch got 11.75 gal., needed to dilute, S.G.1.073, so added 1.25 gal. pure H₂O, added 1.5 gal. to mash, not stirred, no Vorlauf, drain.
I.G. target = 1.065. Adjust for S.G = 1.059 without 2 lb. sugars & -1 pt. for yeast (+6 pt.), so need S.G. = 1.048 avg. runnings, got 1.057 avg. runnings, 9 pt. high. Actual post boil (without Brown Sugar & Molasses) = 1.067, so need 0 lb. table sugar to add 0 points for I.G. = 1.065. Gained 10 pts by boiling, expected +11 pts.
- 8) **Boil Adds** (75 min. total boil, 5 min. added isomerization, due to whirlpool)
3 oz. **Magnum (13.9%)** Pellets, no bag **31 min** boil left (error, should be 38)
1 tablet **Whirlfloc**, 4 tsp **Yeast Nutr. & 1/2 (1?)Zn tablet** **12 min** boil left
4 oz **Ahtanum (4.0%)**, Pellets, no bag **3 min** boil left
- 9) **Whirlpool** for 9.5, not 7 min., add 6 min. to hop isomerization, for this and cooling time.
- 10) **Hop Back**, loaded with 3 oz. old **Crystal** ~0% AA, whole.
- 11) **Counterflow Cool** wort to 67°F, into 2ea. 6.5 gal. carboy (ground water 58°F, ice in pre-chiller)
- 12) **Oxygenate**, 1.5 min. 0.7 liter/min. pure O₂, add blow-off. pH = 5.2

Fermentation

- 1) ___ days in **primary** @65 to 68°F with heater ___ days. Added 0 lb. sugar on day ___ @66°F, ___th day, ramped 1°F/day to 71°F, held for ___ days. No heat for ___ days, ~6___°F. Not fined with gelatin.
- 2) **Kegged**, 12/9/2017. Got 11.1 gal., pH = 4.6, good
- 3) 1.067 to 1.0155 is 77% apparent attenuation, OK, for this Brown Ale, or JBA.

Results

Brewed, 11/10/17, 79% extract efficiency. Shifted to more Cl, less SO₄, ratio 0.5, not previous 1.9 = SO₄/Cl

***Rehydrate Dry Yeast** Per John Palmer pg 72. Warm **11.5 gm.** yeast pack to RT. Prepare **115 ml** of sterile H₂O at **105°F**. Sprinkle yeast onto H₂O surface, wait **15 min.** Stir into a cream, wait **15 min., should foam up.** Adjust temperature to within **15°F** of wort, pitch.