

# King's Rye IPA - #158

## Description

Based on [#151](#), [#150](#), [#148](#), similar to [Denny Conn's Rye IPA](#), with dry Safale US-05 yeast. Makes ~5.4 gal, 107 IBU (calculated), but 10 min. whirlpool & 18 min. delay. 7.5% (v/v) alcohol, and 246 calories in 12 oz. Pete Kirkgasser makes a great hoppy Red Ale. See [Amahl's Ruthless Rye Clone](#). I need less x-stal malts.

## Brew (Brew day takes ~8hr, see page 2 for mashing details)

- 1) **Yeast**, use Chico yeast, this one was 2 packs Safale US-05, rehydrate\*
- 2) **C filtered** 14.5 gal. H<sub>2</sub>O day before. Also, add ¾ Campden tablet (1 per 20 gal.) the night before. 9, should be 8 gal. in HLT.
- 3) **Grain Bill** (16.7 lb. total grain) based on 67% extraction efficiency, got 80%  
7 lb. Briess Brewer's Malt (42%)    8 oz. Acidulated (3.1%)    5.5 lb. Golden Promise 2L (33%)  
3 lb. Rye Malt (18%)    ½ lb. Cara Red (20L) (3.0%)    3 oz. Carafa III, Dehusked (1.1%)  
0 lb. Cane Sugar    \$26 grain
- 4) **Mash-In** – 1x infusion, 147-150°F, use 1.25 qt./lb., 5.2 gal of 161°F strike H<sub>2</sub>O, heat to 173°F, for 16.7 lb. malt, hold 40 min. This one was 174°F in kettle, and 1??°F strike, got 151-148°F mash. 60 min. added 0 qt. hot H<sub>2</sub>O
- 5) **Water Adjustment** – 0 min. into Mash, add 8 gm. Gypsum, CaSO<sub>4</sub>, & 2 gm. Citric Acid, 5.4 & 1 gm. added to mash remaining for 3.5 gal. (\_\_\_ gal. in brew pot), so;  
144 ppm Ca, 13 ppm Mg, 227 ppm SO<sub>4</sub>, 60 ppm Cl, 49 ppm Na. SO<sub>4</sub>/Cl=2.7. Took pH sample 18 min. in, got pH = 5.0, 1<sup>st</sup> = 5.2, 2<sup>nd</sup> = pH = 5.2, but avg. = 5.4, also pH = 5.4 after boil. [EZ water RRIPA158.xls](#) says 5.2. 0.2 high, ??
- 5) **Mash-Out** add 3 gal. 180°F H<sub>2</sub>O, for 156°F. Needed near boiling. Recirc. to clarify, 7 min.
- 6) **2 Batch Sparge** – At 165-170°F, collect **8 gal.**, got 6 gal. 1<sup>st</sup>, added 2 gal., got ~8.5 gal. in fermenter.  
**I.G. target = 1.066.** Adjust for S.G = 1.059, so get S.G. = 1.049 avg. runnings, plus sugar (+7.4 pts) & yeast (-1pts), got 1.049, 1<sup>st</sup>, 1.044 final, ? avg. 1-2 pt. low. Post boil 1.071, w/o sugar, so I added 0 qt. H<sub>2</sub>O, fermenter too full. Got 5 pt. high, due to cool, dry day, more evaporation?
- 7) **Boil Adds** (75 min. total boil, add 15 min. to isomerization calc.)  
1.5 oz **Magnum (13.9%)** pellets, no bag    **35 min.** boil left  
1 tablet **Whirlfloc**, 4 tsp **Yeast Nutrient & ½ Zn tablet**    **10 min.** boil left  
2.1 oz **Citra (11.8%)**, 1 oz. **Centennial (12.1%)** whole hops, no bag    **5 min.** boil left
- 8) **Rehydrate the Yeast** – (little foamy, 8"x8" Pyrex pan to rehydrate 2 packs 09/2018 US-05).
- 9) **Whirlpool** for 7 min., add 15 min. to hop isomerization, for this and cooling time.
- 10) **Hop Back**, loaded with 3 oz. whole 12.1% **Centennial**.
- 11) **Counterflow Cool** wort to 68°F, into 6.5 gal. carboy (ground water ??°F, ice in pre-chiller, very slow)
- 12) **Oxygenate**, 1.5 min. 0.7 liter/min. pure O<sub>2</sub>, add blow-off. pH = 5.4.
- 13) Carboy with blow-off, 70°F, RT = 62°F, SP = 66°F.

## Fermentation

- 1) **Primary** @69-68-70-67-69°F for 3 days with wet towel, then thermostat and heater, raised to 72°F over 6 days. 10 days in added 2 oz. Loral pellet dry hops, 0 lb. table sugar (0 pt.), then 3 days, heat off, 3 days at 65°F.
- 2) **Kegged** 11/1/17 (2.2 hr), dry hopped with 2 oz. Chinook, 2.2 oz. Simcoe in 2<sup>nd</sup> keg (4.4 of 5.4 gal. total)

## Results



- 1) Brewed 10/16/17, expected 67% extraction, got 80% grain extraction, due to base malts. Not at all red, Carafa III ineffective?
- 2) 1.071 to 1.017 is 76% apparent attenuation, good attenuation, due to base malt, little x-stall.
- 3) Next time, reduce base malts, for OG = 1.068.

### \*Rehydrate Dry Yeast

Per John Palmer pg 72. Warm **11.5 gm.** yeast pack to RT. Prepare **115 ml** of sterile H<sub>2</sub>O at **105°F**. Sprinkle yeast onto H<sub>2</sub>O surface, wait **15 min.** Stir into a cream, wait **15 min., should foam up.** Adjust temperature to within **15°F** of wort, pitch.

<https://byo.com/hops/item/153-attack-of-the-hop-clones>