

# Rye Pale Ale

## American Pale Ale (18 B)

**Type:** All Grain

**Batch Size:** 5.25 gal

**Boil Size:** 6.69 gal

**Boil Time:** 60 min

**End of Boil Vol:** 5.94 gal

**Final Bottling Vol:** 5.00 gal

**Fermentation:** Ale, Single Stage, 11 Day, 68F

**Date:** 29 Aug 2019

**Brewer:** Bob

**Equipment:** 3 - DigiBoil MIAB

**Efficiency:** 72.00 %

**Est Mash Efficiency:** 78.0 %

### Water Prep

Amt	Name	Type	#	%/IBU	Volume
7.53 gal	001 - R.O.Water	Water	1	-	-
2.00 tsp	Gypsum (Calcium Sulfate) (Mash)	Water Agent	2	-	-
1.50 ml	Lactic Acid 135% (Mash)	Water Agent	3	-	-
0.88 tsp	Calcium Chloride (Mash)	Water Agent	4	-	-

### Mash or Steep Grains

#### Mash Ingredients

Amt	Name	Type	#	%/IBU	Volume
7 lbs 8.0 oz	Viking 2-row Extra Pale (1.8 SRM)	Grain	5	85.7 %	0.59 gal
1 lbs	Rye Malt, Breiss (3.7 SRM)	Grain	6	11.4 %	0.08 gal
4.0 oz	Crystal 75 (Great Western) (75.0 SRM)	Grain	7	2.9 %	0.02 gal

#### Mash Steps

Name	Description	Step Temperature	Step Time
Saccharification	Add 30.11 qt of water at 162.0 F	154.0 F	90 min

#### Boil Ingredients

Amt	Name	Type	#	%/IBU	Volume
17.00 g	Chinook, [13.10 %] - Boil 60.0 min	Hop	8	22.8 IBUs	-
1.00 Items	Whirlfloc Tablet (Boil 10.0 mins)	Fining	9	-	-
28.00 g	Crystal [3.30 %] - Boil 10.0 min	Hop	10	4.7 IBUs	-
0.50 tsp	Wyeast nutrient (Boil 10.0 mins)	Other	11	-	-
28.00 g	Centenial [8.40 %] - Boil 1.0 min	Hop	12	6.8 IBUs	-
10 pkg	Empire Ale slurry (Mangrove Jack's #M15)	Yeast	13	-	-

Measure Actual Original Gravity 1.046 (Target: 1.043 SG)

Measure Actual Batch Volume 5.25 gal (Target: 5.25 gal)

### Fermentation

29 Aug 2019 - Primary Fermentation (11.00 days at 68.0 F ending at 68.0 F)

Date Kegged - 9 Sept. 2019