

# Centennial Pale Ale

American Pale Ale (18 B)

**Type:** All Grain

**Batch Size:** 5.25 gal

**Boil Size:** 7.00 gal

**Boil Time:** 60 min

**End of Boil Vol:** 6.25 gal

**Final Bottling Vol:** 5.00 gal

**Fermentation:** Ale, Single Stage, 12 Day, 66F

**Date:** 01 Jan 2001

**Brewer:** Bob

**Asst Brewer:**

**Equipment:** 4 - Digiboil MIAB

**Efficiency:** 70.00 %

**Est Mash Efficiency:** 80.0 %

**Taste Rating:** 30.0

**Taste Notes:**



## Ingredients

Amt	Name	Type	#	%/IBU	Volume
7.93 gal	001 - R.O. Water	Water	1	-	-
2.00 ml	Lactic Acid 135% (Mash)	Water Agent	2	-	-
1.38 tsp	Calcium Chloride (Mash)	Water Agent	3	-	-
1.00 tsp	Gypsum (Calcium Sulfate) (Mash)	Water Agent	4	-	-
8 lbs 8.0 oz	Viking 2-row Pale (2.6 SRM)	Grain	5	85.0 %	0.66 gal
1 lbs	Viking Wheat Malt (2.5 SRM)	Grain	6	10.0 %	0.08 gal
8.0 oz	Viking Caramel 150 (60L) (60.0 SRM)	Grain	7	5.0 %	0.04 gal
14.00 g	Centennial, 2016 [8.40 %] - Boil 60.0 min	Hop	8	11.0 IBUs	-
1.00 Items	Whirlfloc Tablet (Boil 10.0 mins)	Fining	9	-	-
28.00 g	Cascade, 2017 [7.20 %] - Boil 10.0 min	Hop	10	9.3 IBUs	-
28.00 g	Centennial, 2016 [8.40 %] - Boil 10.0 min	Hop	11	10.9 IBUs	-
0.50 tsp	Wyeast nutrient (Boil 10.0 mins)	Other	12	-	-
28.00 g	Cascade, 2017 [7.20 %] - Boil 1.0 min	Hop	13	5.3 IBUs	-
28.00 g	Centennial, 2016 [8.40 %] - Boil 1.0 min	Hop	14	6.2 IBUs	-
1.0 pkg	1 Liberty Bell Ale slurry (Mangrove Jack's #M36)	Yeast	15	-	-
28.00 g	Cascade, 2017 [7.20 %] - Dry Hop 5.0 Days	Hop	16	0.0 IBUs	-
28.00 g	Centennial, 2016 [8.40 %] - Dry Hop 5.0 Days	Hop	17	0.0 IBUs	-

## Gravity, Alcohol Content and Color

**Est Original Gravity:** 1.048 SG

**Est Final Gravity:** 1.012 SG

**Estimated Alcohol by Vol:** 4.8 %

**Bitterness:** 42.7 IBUs

**Est Color:** 6.8 SRM

## Mash Profile

**Mash Name:** 23 - BIAB, Medium/ Full Body  
154F

**Sparge Water:** 0.00 gal

**Sparge Temperature:** 168.1 F

**Adjust Temp for Equipment:** TRUE

**Est Mash PH:** 5.53

**Measured Mash PH:** 5.40

## Mash Steps

Name	Description	Step Temperature	Step Time
Saccharification	Add 31.73 qt of water at 162.1 F	154.0 F	60 min

**Sparge:** If steeping, remove grains, and prepare to boil wort

**Mash Notes:** Brew in a bag method where the full boil volume is mashed within the boil vessel and then the grains are withdrawn at the end of the mash. No active sparging is required. This is a full body beer profile.

### Carbonation and Storage

**Carbonation Type:** Keg  
**Pressure/Weight:** 11.25 PSI  
**Keg/Bottling Temperature:** 38.0 F  
**Fermentation:** Ale, Single Stage, 12 Day,  
66F  
**Fermenter:**

**Volumes of CO2:** 2.5  
**Carbonation Est:** Keg with 11.25 PSI  
**Carbonation (from Meas Vol):** Keg with  
11.25 PSI  
**Age for:** 21.00 days  
**Storage Temperature:** 38.0 F