League Roadrunner Hazy (AG)

Specialty IPA (21 B)

Type: All Grain
Batch Size: 23.00 L
Boil Size: 28.50 L
Boil Time: 60 min
Final Bottling Vol: 22.00 L
Fermentation: Ale with Diacetyl Rest

Date: 10 Feb 2020
Efficiency: 75.00 %
Est Mash Efficiency: 81.5 %



Brewing Notes:
This recipe has no boil hop additions, all bitterness comes from the steep/whirlpool addition. The average temperature of the hop stand should be around 80C. Once fermentation is complete, any exposure to oxygen will impact the beer flavour and aroma. This recipe also uses a large amount of steep/whirlpool and dry hops. Suggest using a hop spider for the steep/whirlpool addition and hop bags for the dry hop additions.

1. If flavour minerals are available, add to boil only as mash pH is taken care of with the acid malt.
2. If available, add kettle finings and yeast nutrient 15 min before the end of boil.
3. Add the whirlpool hops once the wort cools to 80C. Do not apply cooling water to the wort chiller until the hop stand is complete (after 30 min).
4. It is recommended that the yeast be rehydrated per the manufacturers instructions. Pitch at 18C and let rise to 20C.
5. After 3 days, add the first dry hop addition.
6. Add the second dry hop addition near end of fermentation and raise the temp to 22C for 5 days for a diacetyl rest.
7. If possible, cold crash for a few days before packaging.
8. Use care to minimize or eliminate exposure to oxygen during cold crashing and packaging.
9. Carbonate to 2.5 - 2.7 volumes of CO2.
10. For peak flavour and aroma, this beer is best consumed fresh.

Mash or Steep Grains

Mash Ingredients

Amt	Name	Type	#	%/IBU	Volume
2.600 kg	Gladfield Pilsner Malt (3.8 EBC)	Grain	1	44.1 %	1.70 L
1.000 kg	Gladfield Vienna Malt (6.8 EBC)	Grain	2	16.9 %	0.65 L
0.650 kg	Big O - Malted Oats (4.5 EBC)	Grain	3	11.0 %	0.42 L
0.650 kg	Gladfield Wheat Malt (4.2 EBC)	Grain	4	11.0 %	0.42 L
0.650 kg	Harraway's Rolled Oats (2.8 EBC)	Grain	5	11.0 %	0.42 L
0.350 kg	Gladfield Sour Grapes Malt (4.0 EBC)	Grain	6	5.9 %	0.23 L

Mash Steps

Name	Description	Step Temperature	Step Time
Saccharification	Add 19.43 L of water at 72.2 C	67.0 C	60 min
Mash Out	Heat to 77.0 C over 10 min	77.0 C	10 min

Fly sparge with 14.98 L water at 75.6 C
Add water to achieve boil volume of 28.50 L
Estimated pre-boil gravity is 1.049 SG

Boil Ingredients

Amt	Name	Type	#	%/IBU	Volume
10.30 g	Calcium Chloride (Boil)	Water Agent	7	-	-
4.50 g	Gypsum (Calcium Sulfate) (Boil)	Water Agent	8	-	-
0.50 Items	Whirlfloc Tablet (Boil 15.0 mins)	Fining	9	-	-
1.50 g	Yeast Nutrient (Boil 15.0 mins)	Other	10	-	-

Steeped Hops

Amt	Name	Type	#	%/IBU	Volume
70.00 g	Sabro [17.00 %] - Steep/Whirlpool 30.0 min, 80.0 C	Hop	11	21.3 IBUs	-
55.00 g	HORT 4337 [11.00 %] - Steep/Whirlpool 30.0 min, 80.0 C	Hop	12	10.8 IBUs	-

Estimated Post Boil Vol: 26.00 L and Est Post Boil Gravity: 1.056 SG

Cool and Transfer Wort

Cool wort to fermentation temperature
Transfer wort to fermenter
Add water if needed to achieve final volume of 23.00 L

Pitch Yeast and Measure Gravity and Volume

Fermentation Ingredients

Amt	Name	Type	#	%/IBU	Volume
2.0 pkg	SafAle English Ale (DCL/Fermentis #S-04) [0.02 L]	Yeast	13	-	-

Measure Actual Original Gravity _____ (Target: 1.056 SG)
Measure Actual Batch Volume _____ (Target: 23.00 L)

Fermentation

10 Feb 2020 - Primary Fermentation (3.00 days at 18.0 C ending at 18.0 C)
13 Feb 2020 - Secondary Fermentation (6.00 days at 20.0 C ending at 20.0 C)
19 Feb 2020 - Tertiary Fermentation (5.00 days at 22.0 C ending at 22.0 C)

Dry Hop and Bottle/Keg

Dry Hop/Bottling Ingredients

Amt	Name	Type	#	%/IBU	Volume
70.00 g	Sabro [17.00 %] - Dry Hop 5.0 Days	Hop	14	0.0 IBUs	-
50.00 g	Nelson Sauvin [10.10 %] - Dry Hop 5.0 Days	Hop	15	0.0 IBUs	-
60.00 g	Sabro [17.00 %] - Dry Hop 4.0 Days	Hop	16	0.0 IBUs	-
45.00 g	HORT 4337 [11.00 %] - Dry Hop 4.0 Days	Hop	17	0.0 IBUs	-

Measure Final Gravity: _____ (Estimate: 1.015 SG)
Date Bottled/Kegged: - Carbonation: Keg with 12.54 PSI