League 40 Days Rye IPA (AG)

Rye 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: 11 Apr 2024
Efficiency: 75.00 %
Est Mash Efficiency: 81.5 %



Brewing Notes:
Over half of the calculated IBUs in this recipe are coming from the large steep/whirlpool addition. Once complete, chill the wort as quickly as possible to minimise adding additional bitterness from the hops.

This recipe uses a high sulphate to chloride ratio (~4:1) when the flavour minerals are used. This is meant to accentuate the dryness and hoppiness of the beer. The target water profile in ppm is Ca - 110, Mg - 10, Na - 10, SO4 - 200, Cl - 50.

1. If available, add sufficient lactic acid to the sparge water to lower the pH to ~5.6 prior to heating (~ 0.5 - 1.0 ml/10L depending on water source).
2. If flavour minerals are available, add to boil only as mash pH is taken care of with acid malt. The target mash pH is ~5.5 (5.4 - 5.6).
3. If available, add kettle finings and yeast nutrient 15 min prior to the end of boil.
4. At the end of the boil, cool the wort to 90C, add the whirlpool hops and maintain at 90C for 20 min before continuing to chill to pitching temp.
5. It is recommended that the yeast be rehydrated per the manufacturer's instructions. Pitch at 18C and let rise to 20C over 48 hours.
6. Once fermentation slows (~5 - 7 days), add the dry hop addition and raise the temp to 23C.
7. Ferment for another 5 days to ensure full attenuation and diacetyl removal by the yeast.
8. Once fermentation is complete, lower the temperature to 2C and hold for 2 - 3 days prior to packaging.
9. Carbonate to 2.6 - 2.7 volumes of CO2.

Mash or Steep Grains

Mash Ingredients

Amt	Name	Type	#	%/IBU	Volume
0.100 kg	Oat Hulls (0.0 EBC)	Adjunct	1	1.7 %	0.10 L
4.200 kg	Gladfield American Ale Malt (5.0 EBC)	Grain	2	73.5 %	2.74 L
1.000 kg	Gladfield Malted Rye (9.9 EBC)	Grain	3	17.5 %	0.65 L
0.275 kg	Gladfield Sour Grapes Malt (4.0 EBC)	Grain	4	4.8 %	0.18 L
0.100 kg	Gladfield Shepherds Delight Malt (320.0 EBC)	Grain	5	1.7 %	0.07 L
0.040 kg	Gladfield Chocolate Rye Malt (800.0 EBC)	Grain	6	0.7 %	0.03 L

Mash Steps

Name	Description	Step Temperature	Step Time
Saccharification	Add 18.93 L of water at 69.9 C	65.0 C	75 min
Mash Out	Heat to 76.0 C over 10 min	76.0 C	10 min

◯ Fly sparge with 15.29 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
20.00 g	Centennial [11.50 %] - Boil 60.0 min	Hop	7	24.2 IBUs	-
10.20 g	Gypsum (Calcium Sulfate) (Boil)	Water Agent	8	-	-
3.40 g	Calcium Chloride (Boil)	Water Agent	9	-	-
2.70 g	Epsom Salt (MgSO4) (Boil)	Water Agent	10	-	-
0.50 Items	Whirlfloc Tablet (Boil 15.0 mins)	Fining	11	-	-
1.50 g	Yeast Nutrient (Boil 15.0 mins)	Other	12	-	-

Steeped Hops

Amt	Name	Type	#	%/IBU	Volume
45.00 g	Amarillo [7.00 %] - Steep/Whirlpool 20.0 min, 90.0 C	Hop	13	9.6 IBUs	-
35.00 g	Centennial [11.50 %] - Steep/Whirlpool 20.0 min, 90.0 C	Hop	14	12.2 IBUs	-
20.00 g	Columbus (Tomahawk) [14.90 %] - Steep/Whirlpool 20.…	Hop	15	9.1 IBUs	-
20.00 g	Equinox (HBC 366) [15.00 %] - Steep/Whirlpool 20.0 m…	Hop	16	9.1 IBUs	-

◯ Estimated Post Boil Vol: 26.00 L and Est Post Boil Gravity: 1.055 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	US West Coast (Mangrove Jack's #M44)	Yeast	17	-	-

◯ Measure Actual Original Gravity _____ (Target: 1.055 SG)
◯ Measure Actual Batch Volume _____ (Target: 23.00 L)

Fermentation

◯ 11 Apr 2024 - Primary Fermentation (2.00 days at 18.0 C ending at 18.0 C)
◯ 13 Apr 2024 - Secondary Fermentation (7.00 days at 20.0 C ending at 20.0 C)
◯ 20 Apr 2024 - Tertiary Fermentation (5.00 days at 23.0 C ending at 23.0 C)

Dry Hop and Bottle/Keg

Dry Hop/Bottling Ingredients

Amt	Name	Type	#	%/IBU	Volume
55.00 g	Amarillo [7.00 %] - 0.0 Days Into Tertiary for 5.0 Days	Hop	18	0.0 IBUs	-
45.00 g	Centennial [11.50 %] - 0.0 Days Into Tertiary for 5.0 Days	Hop	19	0.0 IBUs	-
30.00 g	Columbus (Tomahawk) [14.90 %] - 0.0 Days Into Tertia…	Hop	20	0.0 IBUs	-
30.00 g	Equinox (HBC 366) [15.00 %] - 0.0 Days Into Tertiary f…	Hop	21	0.0 IBUs	-

◯ Measure Final Gravity: _____ (Estimate: 1.011 SG)
◯ Date Bottled/Kegged: - Carbonation: Keg with 17.22 PSI