League Family Jewels (AG)

American IPA (21 A)

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: 22 Jul 2019
Efficiency: 75.00 %
Est Mash Efficiency: 81.5 %



Brewing Notes:
This recipe has a single boil hop addition with most of the calculated IBUs coming from the steep/whirlpool addition. The average temperature of the hop stand should be around 85C. Once fermentation is complete, any exposure to oxygen will impact the beer flavour and aroma.

1. If flavour minerals are available, add to boil only as mash pH is taken care of with the acid malt.
2. Add the whirlpool hops once the wort cools to 90C. Do not apply cooling water to the wort chiller until the hop stand is complete (after 20 min).
3. It is recommended that the yeast be rehydrated per the manufacturers instructions. Pitch at 18C and let rise to 20C.
4. Add the dry hop addition near end of fermentation and raise the temp to 22C for 5 days for a diacetyl rest.
5. If possible, cold crash for a few days before packaging.
6. Use care to minimize or eliminate exposure to oxygen during cold crashing and packaging.
7. Carbonate to 2.6 - 2.7 volumes of CO2.
8. For peak flavour and aroma, this beer is best consumed fresh.

Water Prep

Amt	Name	Type	#	%/IBU	Volume
34.50 L	Nelson, NZ	Water	1	-	-

Mash or Steep Grains

Mash Ingredients

Amt	Name	Type	#	%/IBU	Volume
3.000 kg	Gladfield American Ale Malt (4.7 EBC)	Grain	2	48.8 %	1.96 L
1.900 kg	Pale Malt, Golden Promise (Thomas Fawcett) (5.9 EBC)	Grain	3	30.9 %	1.24 L
0.500 kg	Gladfield Gladiator Malt (10.0 EBC)	Grain	4	8.1 %	0.33 L
0.400 kg	Gladfield Sour Grapes Malt (acid malt) (4.0 EBC)	Grain	5	6.5 %	0.26 L
0.350 kg	Gladfield Aurora Malt (58.0 EBC)	Grain	6	5.7 %	0.23 L

Mash Steps

Name	Description	Step Temperature	Step Time
Saccharification	Add 20.11 L of water at 73.6 C	68.0 C	60 min
Mash Out	Heat to 76.0 C over 10 min	76.0 C	10 min

Fly sparge with 14.55 L water at 76.0 C

Add water to achieve boil volume of 28.50 L
Estimated pre-boil gravity is 1.053 SG

Boil Ingredients

Amt	Name	Type	#	%/IBU	Volume
10.40 g	Calcium Chloride (Boil)	Water Agent	7	-	-
4.50 g	Gypsum (Calcium Sulfate) (Boil)	Water Agent	8	-	-
10.00 g	Galaxy [13.60 %] - Boil 30.0 min	Hop	9	11.6 IBUs	-

Steeped Hops

Amt	Name	Type	#	%/IBU	Volume
150.00 g	Nelson Sauvin [10.10 %] - Steep/Whirlpool 20.0 min, 85.0 C	Hop	10	30.6 IBUs	-

Estimated Post Boil Vol: 26.00 L and Est Post Boil Gravity: 1.060 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	Lalbrew New England East Coast Ale (Lallemand #-) [0.02 L]	Yeast	11	-	-

Measure Actual Original Gravity _____ (Target: 1.060 SG)
Measure Actual Batch Volume _____ (Target: 23.00 L)

Fermentation

22 Jul 2019 - Primary Fermentation (1.00 days at 18.0 C ending at 18.0 C)
23 Jul 2019 - Secondary Fermentation (8.00 days at 20.0 C ending at 20.0 C)
31 Jul 2019 - 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
90.00 g	Galaxy [13.60 %] - Dry Hop 5.0 Days	Hop	12	0.0 IBUs	-
50.00 g	Loral [11.50 %] - Dry Hop 5.0 Days	Hop	13	0.0 IBUs	-

Measure Final Gravity: _____ (Estimate: 1.016 SG)
Date Bottled/Kegged: - Carbonation: Keg with 12.54 PSI