League Flashback (AG) 60L

American Pale Ale (18 B)

Type: All Grain
Batch Size: 60.00 L
Boil Size: 69.12 L
Boil Time: 60 min
Final Bottling Vol: 57.00 L
Fermentation: Ale with Diacetyl Rest US-05

Date: 21 Apr 2022
Efficiency: 75.00 %
Est Mash Efficiency: 78.8 %



Brewing Notes:
This beer is mashed at 65C to produce a more fermentable wort. The average temperature of the 20 min hop stand should be around 80C.

Add the dry hops once fermentation slows but while there is still active fermentation to ensure the yeast cleans up any oxygen that is introduced.

The suggested mineral additions assume an average NZ water profile and should be fine for most NZ water sources. The target water profile in ppm is Ca - 70, Mg - 10, Na - 10, SO4 - 80, Cl - 65.

1. If available, add sufficient lactic acid to the sparge water to lower the pH to ~5.6 prior to heating (~ 0.5 - 1.5 ml depending on water source).
2. If flavour minerals are available, add to boil only as mash pH is taken care of with acid malt.
3. If available, add kettle finings and yeast nutrient 15 min before the end of boil.
4. At the end of the boil, cool the wort to 80C, add the whirlpool hops and maintain the temp at 80C 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 allow to rise to 20C over 48 hours.
6. Once fermentation slows, add the dry hops and raise the temp to 22C for a diacetyl rest.
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
11.600 kg	Gladfield American Ale Malt (4.7 EBC)	Grain	1	87.2 %	7.56 L
1.000 kg	Gladfield Medium Crystal Malt (100.0 EBC)	Grain	2	7.5 %	0.65 L
0.700 kg	Gladfield Sour Grapes Malt (acid malt) (4.0 EBC)	Grain	3	5.3 %	0.46 L

Mash Steps

Name	Description	Step Temperature	Step Time
Saccharification	Add 42.81 L of water at 70.3 C	65.0 C	60 min
Mash Out	Heat to 76.0 C over 10 min	76.0 C	10 min

◯ Fly sparge with 39.63 L water at 76.0 C

◯ Add water to achieve boil volume of 69.12 L
◯ Estimated pre-boil gravity is 1.045 SG

Boil Ingredients

Amt	Name	Type	#	%/IBU	Volume
130.00 g	Cascade [6.00 %] - Boil 60.0 min	Hop	4	30.5 IBUs	-
10.00 g	Gypsum (Calcium Sulfate) (Boil)	Water Agent	5	-	-
9.00 g	Calcium Chloride (Boil)	Water Agent	6	-	-
2.00 Items	Whirlfloc Tablet (Boil 15.0 mins)	Fining	7	-	-
4.00 g	Yeast Nutrient (Boil 15.0 mins)	Other	8	-	-

Steeped Hops

Amt	Name	Type	#	%/IBU	Volume
250.00 g	Taiheke (NZ Cascade) [7.20 %] - Steep/Whirlpool 20.0…	Hop	9	10.4 IBUs	-

◯ Estimated Post Boil Vol: 65.62 L and Est Post Boil Gravity: 1.050 SG

Cool and Transfer Wort

◯ Cool wort to fermentation temperature
◯ Transfer wort to fermenter
◯ Add water if needed to achieve final volume of 60.00 L

Pitch Yeast and Measure Gravity and Volume

Fermentation Ingredients

Amt	Name	Type	#	%/IBU	Volume
5.0 pkg	Safale American (DCL/Fermentis #US-05) [0.05 L]	Yeast	10	-	-

◯ Measure Actual Original Gravity _____ (Target: 1.050 SG)
◯ Measure Actual Batch Volume _____ (Target: 60.00 L)

Fermentation

◯ 21 Apr 2022 - Primary Fermentation (2.00 days at 18.0 C ending at 20.0 C)
◯ 23 Apr 2022 - Secondary Fermentation (5.00 days at 20.0 C ending at 20.0 C)
◯ 28 Apr 2022 - 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
120.00 g	Cascade [6.00 %] - 5.0 Days Before Bottling for 5.0 Days	Hop	11	0.0 IBUs	-

◯ Measure Final Gravity: _____ (Estimate: 1.009 SG)
◯ Date Bottled/Kegged: - Carbonation: Bottle with 403.91 g Corn Sugar