League 'By Jupiter' (AG)

English Barleywine (17 D)

Type: All Grain
Batch Size: 23.00 L
Boil Size: 28.50 L
Boil Time: 75 min
Final Bottling Vol: 22.00 L
Fermentation: Ale with Diacetyl Rest

Date: 14 Sep 2021
Efficiency: 75.00 %
Est Mash Efficiency: 81.5 %



Brewing Notes:
This high ABV beer uses about the maximum amount of grain a typical 30L brewing system can handle. To promote a more fermentable wort and therefore a drier beer, it is mashed at a fairly low temperature (64C) and with a slightly thicker mash than usual (2.5L/kg). Fermenting cool initially will limit the production of yeast derived flavour and aroma (e.g., fruity).

The attenuation will be dependent on the yeast health so it is recommended that the yeast be rehydrated per the manufacturer's instructions and the wort oxygenated with either pure oxygen or by allowing it to splash into the fermenter during transfer. Three packs of yeast have also been supplied to ensure adequate yeast concentration for a high ABV beer.

This beer will improve dramatically with age. It is recommended that it be aged for at least 6 months and it should continue to improve over several more months.

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 - 110, Mg - 10, Na - 10, SO4 - 175, Cl - 50.

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 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).
3. If available, add kettle finings and yeast nutrient 15 min before the end of boil.
4. Once the boil is complete, cool the wort quickly to transfer temperature.
5. Pitch yeast at 16C - 18C and maintain until the gravity reaches ~1.050 then raise to 20C.
6. Near the end of fermentation, add the dry hops and raise the temperature to 22C for a diacetyl rest.
7. Ferment for another 3 - 4 days to ensure full attenuation and diacetyl removal by the yeast.
8. Drop the temperature to 2C and hold for 2 - 3 days prior to packaging.
9. Carbonate to 1.9 - 2.3 volumes of CO2.
10. Age for 6 - 18 months.

Mash or Steep Grains

Mash Ingredients

Amt	Name	Type	#	%/IBU	Volume
4.600 kg	Gladfield Ale Malt (5.5 EBC)	Grain	1	59.7 %	3.00 L
2.500 kg	Gladfield Munich Malt (15.0 EBC)	Grain	2	32.5 %	1.63 L
0.400 kg	Gladfield Dark Crystal Malt (200.0 EBC)	Grain	3	5.2 %	0.26 L
0.200 kg	Gladfield Sour Grapes Malt (acid malt) (4.0 EBC)	Grain	4	2.6 %	0.13 L

Mash Steps

Name	Description	Step Temperature	Step Time
Saccharification	Add 22.75 L of water at 69.7 C	64.0 C	90 min
Mash Out	Heat to 76.0 C over 10 min	76.0 C	10 min

◯ Fly sparge with 13.46 L water at 76.0 C
◯ Add water to achieve boil volume of 28.50 L
◯ Estimated pre-boil gravity is 1.066 SG

Boil Ingredients

Amt	Name	Type	#	%/IBU	Volume
50.00 g	Target [10.40 %] - Boil 60.0 min	Hop	5	47.0 IBUs	-
11.00 g	Gypsum (Calcium Sulfate) (Boil)	Water Agent	6	-	-
3.60 g	Calcium Chloride (Boil)	Water Agent	7	-	-
0.50 Items	Whirlfloc Tablet (Boil 15.0 mins)	Fining	8	-	-
1.50 g	Yeast Nutrient (Boil 15.0 mins)	Other	9	-	-
25.00 g	Bramling Cross [7.00 %] - Boil 10.0 min	Hop	10	9.2 IBUs	-
25.00 g	East Kent Goldings (EKG) [6.30 %] - Boil 5.0 min	Hop	11	6.9 IBUs	-

◯ Estimated Post Boil Vol: 25.38 L and Est Post Boil Gravity: 1.075 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
3.0 pkg	Nottingham Yeast (Lallemand #-) [0.02 L]	Yeast	12	-	-

◯ Measure Actual Original Gravity _____ (Target: 1.075 SG)
◯ Measure Actual Batch Volume _____ (Target: 23.00 L)

Fermentation

◯ 14 Sep 2021 - Primary Fermentation (5.00 days at 17.0 C ending at 17.0 C)
◯ 19 Sep 2021 - Secondary Fermentation (5.00 days at 20.0 C ending at 20.0 C)
◯ 24 Sep 2021 - Tertiary Fermentation (4.00 days at 22.0 C ending at 22.0 C)

Dry Hop and Bottle/Keg

Dry Hop/Bottling Ingredients

Amt	Name	Type	#	%/IBU	Volume
25.00 g	Bramling Cross [7.00 %] - 5.0 Days Before Bottling for…	Hop	13	0.0 IBUs	-
25.00 g	East Kent Goldings (EKG) [6.30 %] - 5.0 Days Before B…	Hop	14	0.0 IBUs	-

◯ Measure Final Gravity: _____ (Estimate: 1.012 SG)
◯ Date Bottled/Kegged: - Carbonation: Bottle with 129.40 g Corn Sugar