League Barone Lupulo (AG)

German Pils (5 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: Lager, Two Stage

Date: 16 Apr 2023
Efficiency: 75.00 %
Est Mash Efficiency: 81.5 %



Brewing Notes:
This recipe is an Italian pilsner which is essentially a dry hopped German pilsner. It will benefit from lagering for at least an additional 2 - 4 weeks if kegged or after bottle conditioning is complete. It will continue to improve if stored cool.

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 - 60, Mg - 8, Na - 16, SO4 - 90, Cl - 60.

1. If flavour minerals are available, add to boil only as mash pH is taken care of with 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. Cool the wort to 85C, add the whirlpool hops and maintain the temp at 85C 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 10C - 12C and maintain until fermentation is nearing completion.
6. Once fermentation slows (~7 days), add the dry hops and raise the temperature to 17C over 24 - 48 hours for a diacetyl rest.
7. Once fermentation is completed, cold crash to 2C and let lager for a week before packaging.
8. Carbonate to 2.6 - 2.8 volumes of CO2.
9. Lager at 2C for at least 2 more weeks before drinking.

Mash or Steep Grains

Mash Ingredients

Amt	Name	Type	#	%/IBU	Volume
4.400 kg	BEST Pilsen Malt (BESTMALZ) (3.5 EBC)	Grain	1	89.8 %	2.87 L
0.250 kg	BEST Munich (BESTMALZ) (15.0 EBC)	Grain	2	5.1 %	0.16 L
0.250 kg	Sour Grapes Malt (4.0 EBC)	Grain	3	5.1 %	0.16 L

Mash Steps

Name	Description	Step Temperature	Step Time
Saccharification	Add 16.73 L of water at 69.8 C	65.0 C	75 min
Mash Out	Heat to 76.0 C over 10 min	76.0 C	10 min

◯ Fly sparge with 16.68 L water at 77.0 C
◯ Add water to achieve boil volume of 28.50 L
◯ Estimated pre-boil gravity is 1.043 SG

Boil Ingredients

Amt	Name	Type	#	%/IBU	Volume
40.00 g	Tettnang [3.30 %] - Boil 60.0 min	Hop	4	14.6 IBUs	-
5.00 g	Gypsum (Calcium Sulfate) (Boil)	Water Agent	5	-	-
3.70 g	Calcium Chloride (CaCl2) (Boil)	Water Agent	6	-	-
40.00 g	Hallertauer Mittelfrueh [2.90 %] - Boil 15.0 min	Hop	7	8.7 IBUs	-
35.00 g	Tettnang [3.30 %] - Boil 15.0 min	Hop	8	8.7 IBUs	-

Steeped Hops

Amt	Name	Type	#	%/IBU	Volume
30.00 g	Hallertauer Mittelfrueh [2.90 %] - Steep/Whirlpool 2…	Hop	9	1.9 IBUs	-

◯ Estimated Post Boil Vol: 25.38 L and Est Post Boil Gravity: 1.049 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	Saflager Lager (DCL/Fermentis #W-34/70) [0.05 L]	Yeast	10	-	-

◯ Measure Actual Original Gravity _____ (Target: 1.049 SG)
◯ Measure Actual Batch Volume _____ (Target: 23.00 L)

Fermentation

◯ 16 Apr 2023 - Primary Fermentation (7.00 days at 12.0 C ending at 12.0 C)
◯ 23 Apr 2023 - Secondary Fermentation (2.00 days at 12.0 C ending at 17.0 C)
◯ 25 Apr 2023 - Tertiary Fermentation (5.00 days at 17.0 C ending at 17.0 C)
◯ 30 Apr 2023 - Bulk Age (1.00 days at 17.0 C ending at 2.0 C)

Dry Hop and Bottle/Keg

Dry Hop/Bottling Ingredients

Amt	Name	Type	#	%/IBU	Volume
30.00 g	Hallertauer Mittelfrueh [2.90 %] - 7.0 Days Before B…	Hop	11	0.0 IBUs	-
25.00 g	Tettnang [3.30 %] - 7.0 Days Before Bottling for 7.0…	Hop	12	0.0 IBUs	-

◯ Measure Final Gravity: _____ (Estimate: 1.010 SG)
◯ Date Bottled/Kegged: - Carbonation: Keg with 17.22 PSI