League F5 NZ Pilsner (PE)

Czech Premium Pale Lager (3 B)

Type: Partial Mash
Batch Size: 23.00 L
Boil Size: 5.00 L
Boil Time: 30 min
Final Bottling Vol: 21.49 L
Fermentation: Lager, Two Stage

Date: 25 Mar 2019
Efficiency: 55.00 %
Est Mash Efficiency: 59.5 %



Brewing Notes:
This recipe has to be fermented cool and will benefit from lagering for at least 2 weeks if kegged or after bottle conditioning is complete. It will continue to improve if stored cool.

1. Heat 2L of water to 70C, remove from heat, add grains mixing thoroughly, cover and let steep for 30 min.
2. When complete, remove grains and rinse with 3L of warm water. Top up to a total boil volume of 5L.
3. If flavour minerals are available, add to boil. Boil for 30 min adding boil hops as indicated.
4. When complete, remove from heat, let cool to 95C, add steep/whirlpool hops, cover and let stand for 20 min.
5. Dissolve the remaining LME as normal.
6. Strain out hops, add liquid to the LME mixture, and top up to 23 L.
7. Pitch at 10C and maintain 10C - 12C until fermentation is nearing completion.
8. Once fermentation slows (~10 - 12 days), raise temp to 17C for a diacytle rest and add the dry hop addition.
9. After 5 days, cold crash to 2C and let lager for at least a week before packaging.
10. Carbonate to 2.5 volumes of CO2.

Mash or Steep Grains

Mash Ingredients

Amt	Name	Type	#	%/IBU	Volume
0.430 kg	Gladfield Toffee Malt (10.5 EBC)	Grain	1	10.6 %	0.28 L
0.220 kg	Gladfield Aurora Malt (58.0 EBC)	Grain	2	5.4 %	0.14 L

Mash Steps

Name	Description	Step Temperature	Step Time
Mash Step	Add 1.95 L of water and heat to 67.0 C over 0 min	67.0 C	30 min

Add water to achieve boil volume of 5.00 L
Estimated pre-boil gravity is 1.023 SG

Boil Ingredients

Amt	Name	Type	#	%/IBU	Volume
5.40 g	Gypsum (Calcium Sulfate) (Boil)	Water Agent	3	-	-
4.00 g	Calcium Chloride (Boil)	Water Agent	4	-	-
20.00 g	Motueka [7.40 %] - Boil 30.0 min	Hop	5	14.8 IBUs	-
20.00 g	Wakatu (Hallertau Aroma) [6.10 %] - Boil 30.0 min	Hop	6	12.2 IBUs	-

Steeped Hops

Amt	Name	Type	#	%/IBU	Volume
30.00 g	Motueka [7.40 %] - Steep/Whirlpool 20.0 min, 90.0 C	Hop	7	8.6 IBUs	-
30.00 g	Wakatu (Hallertau Aroma) [6.10 %] - Steep/Whirlpool 20.0 min, 90.0 C	Hop	8	7.1 IBUs	-

Estimated Post Boil Vol: 4.58 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
3.400 kg	Black Rock LME Unhopped Blond [Primary] (5.0 EBC)	Extract	9	84.0 %	2.41 L
2.0 pkg	Bohemian Lager Yeast (Mangrove Jack's #M84)	Yeast	10	-	-

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

Fermentation

25 Mar 2019 - Primary Fermentation (12.00 days at 12.0 C ending at 12.0 C)
06 Apr 2019 - Secondary Fermentation (5.00 days at 17.0 C ending at 17.0 C)

Dry Hop and Bottle/Keg

Dry Hop/Bottling Ingredients

Amt	Name	Type	#	%/IBU	Volume
50.00 g	Nelson Sauvin [10.10 %] - Dry Hop 5.0 Days	Hop	11	0.0 IBUs	-
50.00 g	Pacifica [4.50 %] - Dry Hop 5.0 Days	Hop	12	0.0 IBUs	-

Measure Final Gravity: _____ (Estimate: 1.013 SG)
Date Bottled/Kegged: - Carbonation: Keg with 14.89 PSI