League California Steamin' (AG)

California Common (19 B)

Type: All Grain
Batch Size: 23.00 L
Boil Size: 28.50 L
Boil Time: 60 min
Final Bottling Vol: 22.00 L
Fermentation: California Common - Lager

Date: 29 Mar 2021
Efficiency: 75.00 %
Est Mash Efficiency: 81.5 %



Brewing Notes:
This recipe uses a lager yeast that is tolerant of warmer fermentation temperatures while maintaining a clean fermentation profile. The average temperature of the 15 min hop stand should be around 90C.

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 - 70, Cl - 70.

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. Cool the wort to 90C, add the whirlpool hops and maintain the temp at 90C for 15 min before continuing to chill to pitching temp.
5. It is recommended that the yeast be rehydrated per the manufacturers instructions. Pitch at 16C and maintain until fermentation is nearing completion.
6. Once fermentation slows (~5 days), raise the temperature to19C for a diacetyl rest.
7. Once fermentation is complete, cold crash to 2C and let lager for at least a week before packaging.
8. Carbonate to 2.7 - 2.8 volumes of CO2.

Mash or Steep Grains

Mash Ingredients

Amt	Name	Type	#	%/IBU	Volume
3.900 kg	Gladfield American Ale Malt (4.7 EBC)	Grain	1	73.6 %	2.54 L
0.700 kg	Gladfield Munich Malt (15.5 EBC)	Grain	2	13.2 %	0.46 L
0.200 kg	Gladfield Medium Crystal Malt (111.0 EBC)	Grain	3	3.8 %	0.13 L
0.200 kg	Gladfield Rye Malt (9.9 EBC)	Grain	4	3.8 %	0.13 L
0.200 kg	Gladfield Sour Grapes Malt (acid malt) (4.0 EBC)	Grain	5	3.8 %	0.13 L
0.100 kg	Gladfield Chocolate Rye Malt (800.0 EBC)	Grain	6	1.9 %	0.07 L

Mash Steps

Name	Description	Step Temperature	Step Time
Saccharification	Add 17.81 L of water at 72.3 C	67.0 C	60 min
Mash Out	Heat to 76.0 C over 10 min	76.0 C	10 min

◯ Fly sparge with 16.00 L water at 76.0 C
◯ Add water to achieve boil volume of 28.50 L
◯ Estimated pre-boil gravity is 1.046 SG

Boil Ingredients

Amt	Name	Type	#	%/IBU	Volume
15.00 g	Chinook [12.10 %] - Boil 60.0 min	Hop	7	19.6 IBUs	-
3.80 g	Calcium Chloride (CaCl2) (Boil)	Water Agent	8	-	-
3.50 g	Gypsum (CaSO4) (Boil)	Water Agent	9	-	-
0.50 Items	Whirlfloc Tablet (Boil 15.0 mins)	Fining	10	-	-
1.50 g	Yeast Nutrient (Boil 15.0 mins)	Other	11	-	-
15.00 g	Chinook [12.10 %] - Boil 10.0 min	Hop	12	11.4 IBUs	-

Steeped Hops

Amt	Name	Type	#	%/IBU	Volume
20.00 g	Chinook [12.10 %] - Steep/Whirlpool 15.0 min, 90.0 C	Hop	13	6.2 IBUs	-

◯ Estimated Post Boil Vol: 26.00 L and Est Post Boil Gravity: 1.052 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	California Lager (Mangrove Jack's #M54)	Yeast	14	-	-

◯ Measure Actual Original Gravity _____ (Target: 1.052 SG)
◯ Measure Actual Batch Volume _____ (Target: 23.00 L)

Fermentation

◯ 29 Mar 2021 - Primary Fermentation (5.00 days at 16.0 C ending at 16.0 C)
◯ 03 Apr 2021 - Secondary Fermentation (7.00 days at 19.0 C ending at 19.0 C)

Dry Hop and Bottle/Keg

◯ Measure Final Gravity: _____ (Estimate: 1.012 SG)
◯ Date Bottled/Kegged: - Carbonation: Bottle with 173.56 g Corn Sugar