League Darkside (AG) 60L

Oatmeal Stout (16 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

Date: 01 Jun 2023
Efficiency: 75.00 %
Est Mash Efficiency: 78.8 %



Brewing Notes:
This beer is mashed at 69C to produce a fuller body. 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 - 10, Na - 30, 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 - 1.0 ml/10L depending on water source).
2. If flavour minerals are available, add to boil only as mash pH is taken care of with the dark grains.
3. For the salt addition, use plain (non-iodised) table salt or canning salt. This is included because the added sodium can enhance dark beer flavour.
4. If available, add kettle finings and yeast nutrient 15 min before the end of boil.
5. It is recommended that the yeast be rehydrated per the manufacturer;s instructions. Pitch at 18C and maintain for 3 days then let rise to 20C.
6. Once fermentation slows, 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
11.000 kg	Gladfield Ale Malt (6.0 EBC)	Grain	1	72.4 %	7.17 L
1.200 kg	Harraway's Rolled Oats (2.8 EBC)	Grain	2	7.9 %	0.78 L
0.900 kg	Gladfield Biscuit Malt (60.0 EBC)	Grain	3	5.9 %	0.59 L
0.900 kg	Gladfield Light Chocolate Malt (900.0 EBC)	Grain	4	5.9 %	0.59 L
0.600 kg	Gladfield Dark Crystal Malt (190.0 EBC)	Grain	5	3.9 %	0.39 L
0.600 kg	Gladfield Roast Barley (1450.0 EBC)	Grain	6	3.9 %	0.39 L

Mash Steps

Name	Description	Step Temperature	Step Time
Saccharification	Add 47.94 L of water at 74.9 C	69.0 C	60 min
Mash Out	Heat to 76.0 C over 10 min	76.0 C	10 min

◯ Fly sparge with 36.41 L water at 76.0 C
◯ Add water to achieve boil volume of 69.12 L
◯ Estimated pre-boil gravity is 1.053 SG

Boil Ingredients

Amt	Name	Type	#	%/IBU	Volume
9.30 g	Gypsum (Calcium Sulfate) (Boil)	Water Agent	7	-	-
5.10 g	Calcium Chloride (Boil)	Water Agent	8	-	-
4.20 g	Salt (Boil)	Water Agent	9	-	-
50.00 g	East Kent Goldings (EKG) [5.80 %] - Boil 50.0 min	Hop	10	10.7 IBUs	-
200.00 g	East Kent Goldings (EKG) [5.80 %] - Boil 20.0 min	Hop	11	27.4 IBUs	-
1.50 Items	Whirlfloc Tablet (Boil 15.0 mins)	Fining	12	-	-
3.50 g	Yeast Nutrient (Boil 15.0 mins)	Other	13	-	-

◯ Estimated Post Boil Vol: 65.62 L and Est Post Boil Gravity: 1.058 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	14	-	-

◯ Measure Actual Original Gravity _____ (Target: 1.058 SG)
◯ Measure Actual Batch Volume _____ (Target: 60.00 L)

Fermentation

◯ 01 Jun 2023 - Primary Fermentation (3.00 days at 18.0 C ending at 18.0 C)
◯ 04 Jun 2023 - Secondary Fermentation (6.00 days at 20.0 C ending at 20.0 C)
◯ 10 Jun 2023 - Tertiary Fermentation (5.00 days at 22.0 C ending at 22.0 C)

Dry Hop and Bottle/Keg

◯ Measure Final Gravity: _____ (Estimate: 1.016 SG)
◯ Date Bottled/Kegged: - Carbonation: Keg with 16.06 PSI