Devilicious (AG) 42.5L

Belgian Golden Strong Ale (25 C)

Type: All Grain
Batch Size: 42.50 L
Boil Size: 44.77 L
Boil Time: 60 min
Final Bottling Vol: 42.50 L
Fermentation: Belgian Ale, Single Stage

Date: 21 Nov 2022
Efficiency: 80.00 %
Est Mash Efficiency: 80.0 %



Brewing Notes:
This recipe requires the brewer to source the 2.5 kg of demerara sugar which is readily available from any grocer.

The suggested mineral additions assume an average NZ water profile and should be fine for most NZ water sources. The target (balanced) water profile in ppm is Ca - 65, Mg - 5, Na - 10, SO4 - 75, Cl - 55.

1. This recipe is designed to include mineral additions in the mash. If you do not have scales, 1 flat tsp/4g each of gypsum and calcium chloride will be a close approximation. The mineral additions are designed to target an optimal mash pH of 5.2 without the need for larger amounts of acidulated malt. Calcium is also essential for stabilising mash enzymes and for yeast health. The mineral additions are also very important for the flavour profile of the beer. If you do not have brewing salts in your home brewery, they are available for purchase on the LoB website and will last a great many brews for a small cost.

2. All of our hops are packaged in 50, 100 and 200 g packs. This means that for this recipe you will have an extra 26 g of East Kent Goldings hops. You may wish to use them to adjust the bittering if the current hop stocks are of a lower AA%.

3. If you wish (particularly if your system requires excessive sparging, below SG 1.012), add sufficient lactic acid to the sparge water to lower the pH to 5.6 prior to heating (~ 0.5 - 1.0 ml/10l lactic acid depending on water source).

4. Unfortunately brewing software is not always perfect and the estimates for the pre-boil gravity are incorrect. This is due to an increase in batch size that occurs with the addition of additional fermentables (sugar) later in the brewing process. This approach is recommended to give the yeast a head start and help avoid the production of higher (hot) alcohol in a wort otherwise rich in simple sugars. You should therefore expect a pre-boil gravity of around 1.050 at a volume of approximately 45L.

5. We recommend adding kettle finings (whirlflock, Irish Moss). Adding yeast nutrient 15 min before the end of boil is a very good idea for a big beer like this.

6. Cool the wort to 18C and promptly transfer to a fermenter. At this point you should have a wort with a SG of around 1.054. The remaining fermentable (sugar) will be added during fermentation, raising the effective OG to 1.076.

7. We strongly recommend that the yeast be rehydrated in sterile warm water per the manufacturer's instructions. If not, you may lose up to 50% cell viability. An extra-large pitch of yeast is supplied with this kit as this is necessary with such a high gravity beer. Pitch all of it into well aerated wort at 18C and allow to the ferment to rise to 20C.

8. When the primary ferment is near to complete (after a few days), thoroughly dissolve the demerara sugar in 2.5L freshly boiled water, cool to room temperature and carefully add it to the ferment. Note the sugar addition will raise the batch volume to 42.5L and the target OG to 1.076. Some additional volume will also be gained due to the mass of the sugar. This volume will not have significant impact on the specific gravity and for simplicity has been left out of the calculations. Now, maintain the fermentation temperature at 20C until the ferment is complete. We recommend further aging the beer at 18C for 14 days or longer. Four weeks from start to finish is a good rule of thumb. It is likely that there will be no need to cold crash your beer. If the beer needs more time, let it have it. A month on yeast is not a problem, especially with small scale home brewed batches. Time is your friend and this beer will benefit from proper aging.

9. When ready, rack the beer to a CO2 purged keg and force carbonate targeting 2.7 vols C02. Alternatively, bottle or keg conditioning with priming sugar is a very nice option for Belgian styles and allows for that lovely high level of carbonation that is not so easy to handle on tap. Do not cold crash if you choose this option and do not rush the beer. A stable finishing gravity is a must (one week for clean beers is a good safety margin) and use a priming calculator to target around 3.0-3.5 vols C02.

Water Prep

Amt	Name	Type	#	%/IBU	Volume
38.00 L	Balanced Profile	Water	1	-	-
6.60 g	Gypsum (Mash)	Water Agent	2	-	-
5.00 g	Calcium Chloride (dihydrate) (Mash)	Water Agent	3	-	-

Mash or Steep Grains

Mash Ingredients

Amt	Name	Type	#	%/IBU	Volume
9.000 kg	NZ - Gladfield - Pilsner Malt (3.7 EBC)	Grain	4	72.8 %	5.87 L
0.500 kg	Chit Malt (3.0 EBC)	Grain	5	4.0 %	0.33 L
0.370 kg	NZ - Gladfield - Sour Grapes Malt Acid (4.0 EBC)	Grain	6	3.0 %	0.24 L

Mash Steps

Name	Description	Step Temperature	Step Time
Saccharification	Add 44.16 L of water at 68.7 C	65.0 C	75 min
Mash Out	Heat to 76.0 C over 10 min	76.0 C	10 min

◯ Fly sparge with 10.50 L water at 77.0 C
◯ Add water to achieve boil volume of 44.77 L
◯ Estimated pre-boil gravity is 1.051 SG

Boil Ingredients

Amt	Name	Type	#	%/IBU	Volume
74.00 g	East Kent Goldings [6.30 %] - Boil 60.0 min	Hop	7	27.5 IBUs	-

◯ Estimated Post Boil Vol: 41.77 L and Est Post Boil Gravity: 1.076 SG

Cool and Transfer Wort

◯ Cool wort to fermentation temperature
◯ Transfer wort to fermenter
◯ Add water if needed to achieve final volume of 42.50 L

Pitch Yeast and Measure Gravity and Volume

Fermentation Ingredients

Amt	Name	Type	#	%/IBU	Volume
2.500 kg	NZ - Chelsea - Demerara Sugar [Primary] (2.0 EBC)	Sugar	8	20.2 %	1.58 L
6.0 pkg	Safbrew - Abbaye Yeast BE-256 (Fermentis / Safale #BE-256)	Yeast	9	-	-

◯ Measure Actual Original Gravity _____ (Target: 1.076 SG)
◯ Measure Actual Batch Volume _____ (Target: 42.50 L)

Fermentation

◯ 21 Nov 2022 - Primary Fermentation (14.00 days at 18.0 C ending at 20.0 C)

Dry Hop and Bottle/Keg

◯ Measure Final Gravity: _____ (Estimate: 1.004 SG)
◯ Date Bottled/Kegged: - Carbonation: Keg with 22.49 PSI