

Style: 4B. Festbier

Brewer: Beer-N-BBQ by Larry
 Brew Date: August 20, 2022

Brew System: Blichmann BrewEasy, 10 Gal. Electric, 75% Power
 Chiller: JaDeD Scylla Fermenter(s): Kegmenter

Grain Bill, Adjuncts, & Sugars		
Type	Qty lb	% of Bill
Pilsner Malt: Premium Pilsen Malt (Avangard Malz)	10.00	41.7%
Pale Malt: Brewers Malt, 2-row (Briess)	5.00	20.8%
Vienna Malt: Vienna Malt (Avangard Malz Premium)	9.00	37.5%

Recipe Outputs		BJCP Guide	
Design	Actual	Min	Max
Extract Eff.:	70.0%	67.5%	
Brewhouse Eff.:	64.8%	#VALUE!	
O.G.:	1.054	1.052	1.054 1.057
F.G.:	1.015		1.010 1.012
Ferm Vol:	43.0		
Batch Vol:	40.0		
App Atten:	73.0%		
IBUs:	22	#VALUE!	18 25
ABV:	5.1%		5.8% 6.3%
SRM:	5	#VALUE!	4 7
Calories per US Pint:	250		

Water Information		
Chicago (Lake Michigan)		
ppm (mg/L)	Orig.	Adj.
Calcium	37	46
Magnesium	12	12
Sodium	9	9
Chloride	16	32
Sulfate	25	25
Alkalinity	102	
Cl/SO ₄ Ratio	0.64	1.29

Total Water Required										
Design	61.6	qt	68.0	°F	Actual	61.6	qt	68.0	°F	
Mash Schedule & Water Infusions										
Step #	Schedule		Strike Water (Preheated Tun)				Mash		Mash pH	
	Temp °F	Time min	Design qt	°F	Actual qt	°F	Actual °F	Design	Actual	
1	122	20	35.6	129	35.6	122.0	122.0	5.5		
2	144	30					144.0			
3	158	15					158.0			
4	168	10					168.0			
5										

Hop Bill & Schedule					
Species	Type	Alpha (%)	Qty oz	AAU	Time (min)
Magnum (German)	Pellet	12.0	1.00	12.0	60
Hallertauer Mittelfrüh (German)	Pellet	4.1	1.00	4.1	10
Hallertauer Mittelfrüh (German)	Pellet	4.1	1.00	4.1	1



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Water Additions (grams)		
	Mash	Sparge
Gypsum	0.0	0.0
Cal Chloride	2.0	0.0
Epson Salt	0.0	0.0
Slaked Lime	0.0	0.0
Baking Soda	0.0	0.0
Chalk	0.0	0.0
Lactic Acid	5	mL

Yeast Information		
Omega Yeast		
German Bock		
Ferm Temp:	48-55	°F

Forced Carbonation		
CO2 Volume	2.5	
Temperature	38.0	°F
Pressure	11.2	PSI

Lautering Process (Wort Separation)							
		Design		Actual		Corrected	
		qt	°F	qt	°F	qt	°F
No Sparge	Sparge Water Req'd	27.0	168.0				168.0
	-	-	-				
	-	-	-				
	-	-	-				
	-	-	-				
Grains Only Contribution	Wort Collected	52.1	168.0	50.4	191.0	50.0	168.0
	Grain Absorb Rate	0.38	qt/lb	-0.65	qt/lb		
	S.G. Hydrometer	1.048		1.048	0.0	°F	1.048
	Refractometer	11.9	° Brix		° Brix		
	Mash Extract Efficiency	70%		67.5%		Hydrometer	
					Refractometer		

Boil Process							
		Design		Actual		Corrected	
		qt	°F	qt	°F	qt	°F
Boil	Start Volume	53.0					
	Time	75	min				
	End Volume (w/ IC)	48.2					
	Boil off Rate	5.4	qt/hr				
Post Boil	Chilled Volume	44.5	qt	45.0	qt	45.0	qt
		75	°F	79.0	°F	75	°F
O.G.	Hydrometer	1.054		1.052	68.0	°F	1.052
	Refractometer	13.4			° Brix		

Fermentation & Clarification							
		Design		Actual		Corrected	
		qt	°F	qt	°F	qt	°F
	Into Fermenter	43.0	75.0				
	Into Bright Tank or Aging Vessel						
F.G.	Hydrometer	1.015				°F	
	Refractometer	3.7	° Brix		° Brix		
	Packaged Beer	40.0	qt		qt		

Other Ingredients/Additions		Amount	When
Whirlfloc tablets		2	15 min
Yeast Starter		2 L	pitch
Gelatin		1 g/gal	post ferm

NOTES:

- Pressure ferment ~2 weeks under 15 psi pressure at room temperature (~70 deg F).
- Cold crash.
- Gelatin fine: Rate 1g gelatin per gallon of beer: Dissolve in 2 oz boiled but cooled dechlorinated water per gram gelatin. Stir. Heat to 160 deg F. Add to kegs and agitate. Purge headspace with CO2.
- Rack to keg(s) via closed transfer if possible and chill.
- Carbonate then pour off sediment.
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