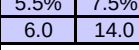


Style: 21A. American IPA

Brewer: Beer 'N BBQ by Larry
Brew Date: March 20, 2021Brew System: 20 Gal Spike Kettle, Coleman 72 qt Cooler, Elect, 66% Power, Pump
Fermenter: FermZilla All-Rounder 30L, Spike Flex+

Grain Bill, Adjuncts, & Sugars		
Type	Qty lb	% of Bill
Pale Malt: Brewers Malt, 2-row (Briess)	20.00	74.1%
Munich Malt: Dark Munich Malt (Avangard Malz)	5.00	18.5%
Vienna Malt: Goldpils® Vienna Malt (Briess)	2.00	7.4%

Recipe Outputs			BJCP Guide	
	Design	Actual	Min	Max
Extract Eff.:	75.0%	75.0%		
Brewhouse Eff.:	64.3%	67.4%		
O.G.:	1.059	1.059	1.056	1.070
F.G.:	1.011	1.008	1.008	1.014
Ferm Vol:	44.0	46.0		
Batch Vol:	40.0	40.0		
App Atten:	81.0%	87.0%		
IBUs:	41	42	40	70
ABV:	6.3%	6.7%	5.5%	7.5%
SRM:	6.9	7.1	6.0	14.0
Calories per US Pint:	271			

Water Information		
Chicago (Lake Michigan)		
ppm (mg/L)	Orig.	Adj.
Calcium	37	118
Magnesium	12	12
Sodium	9	9
Chloride	16	100
Sulfate	25	108
Alkalinity	102	
Cl/SO ₄ Ratio	0.64	0.92

Brewing Process					
Mash Schedule & Water Infusions					
Step #	T1 °F	T2 °F	Time min	Infusion °F	Actual qt
1	68	148	40	164	27.0
2	148	158	20	179	15.4
3					
4					
5					

Hop Bill & Schedule					
Species	Type	Alpha (%)	Qty oz	AAU	Time (min)
Centennial	Pellet	10.0	1.00	10.0	FWH
Centennial	Pellet	10.0	2.00	20.0	30
Centennial	Pellet	10.0	1.00	10.0	5
Centennial	Pellet	10.0	2.00	20.0	Dry Hop



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Other Ingredients/Additions	Amount	When
Whirlfloc	2	15 min
Cannabis, decarboxylated	1.5 oz	Dry Hop
dry yeast	2 pkg	pitch

NOTES: Cannabis decarbed via sous vide (or is it sous weed?) method. Add dry hops and weed on tail end of fermentation (3-5 days). Keg after another week or so.

Water Additions (grams)		
	Mash	Sparge
Gypsum	6.0	0.0
Cal Chloride	7.0	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	4	mL

Yeast Information		
Fermentis		
SafAle US-05		
Ferm Temp:	64-82	°F

Forced Carbonation		
CO ₂ Volume	2.5	
Temperature	38.0	°F
Pressure	11.2	PSI

Name		Design	Actual	Units	
Mash pH		5.5	5.5		
Batch Sparge	Water	29.8	27.3	qt	
	Temp	158.0	164.0	°F	
	Add	1.2	0.0	qt	
	Drain	28.6	30.0	qt	
	Add & Drain	28.6		qt	
Pre-Boil	Volume	57.3	62.0	qt	
	Temp	158.0	140.0	°F	
	Grain Abs Rate	0.50	0.33	qt/lb	
	Grains Only	Hydro.	1.053	1.047	Temp
		Corr SG		1.049	67.7
		Refracto.	13.1		° Brix
	Grain + Sugar	Corr SG			
		Hydro.	1.053	1.047	Temp
		Corr SG		1.049	67.7
	Refracto.	13.1		° Brix	
	Corr SG				
Extract Efficiency (Grains Only)		75%	75.0%	Hydro.	
				Refrac	
Boil	Starting Vol	58.4	62.0	qt	
	Time	90	100	min	
	End Vol	w/ IC	53.1	51.0	qt
		No IC	50.9	49.5	qt
		Volume	44.0	46.0	qt
Fermenter	Temp	75.0	75.0	°F	
Original Gravity	Hydrometer	1.059	1.059	Temp	
		Corr SG	1.059	46.7	
	Refractometer	14.6		° Brix	
		Corr SG			
Final Gravity	Hydrometer	1.011	1.006	Temp	
		Corr SG	1.008	67.0	
	Refractometer	2.9		° Brix	
		Corr SG			
Packaged Beer		40.0	40.0	qt	