

BREWSHEET v1.0 (2010-02-26)

Batch				BJCP Style Guideline				Efficiency	
Brew Name:	Czech Pilsner (CP)			Style:	Bohemian Pilsner			Brewhouse Efficiency:	68%
Estimated OG:	1.042	Actual OG:	1.033	Code:	2B			Efficiency (on Batch Size):	53%
Estimated FG:	1.009	Actual FG:	1.010	OG:	1.044-1.056			Efficiency into Boiler:	
Estimated IBU:	49.1	Actual IBU:	48.0	FG:	1.013-1.017			Efficiency into Fermenter:	59%
Estimated SRM:	3.7	Actual SRM:	3.4	IBU:	35.0-45.0				
Brew Date:	01/31/10	Collected:	5.60	SRM:	3.5-6.0				
Rack Date:	02/20/10	Racked:	5.10	ABV:	4.2-5.4%				
Bottle Date:	04/30/10	Bottles:	50	CO2:	2.3-2.5				

Grain	Pounds	Potential	Color	% Bill
Bohemian Pilsner	9.00	1.037	2	97.30%
Caramel/Crystal 10L	0.25	1.034	10	2.70%

Hop	Alpha %	Ounces	Boil Time	IBU
Nugget	13.7%	1.00	60	46.2
Saaz (US)	4.3%	1.00	5	2.9

Yeast Strain	
Yeast Strain:	White Labs WLP802
Type:	Pilsner Lager
Attenuation:	75-80%
Fermentation Temp:	50-55F
Flocculation:	medium

Yeast Required	
Cell Count (billions):	164
Vials (White Labs/Wyeast):	1.4
Dry Yeast (g):	9
Starter Volume (mL):	
DME Required (oz):	
Vials Required (w/ Starter):	

User Variables	
Calories per Pint:	111
12 oz. Bottles Required:	53.3
DME for Carbonation (oz.):	5.78
Estimated Preboil SG:	
Actual Attenuation (%):	68.75%
Bottle Top Code:	CP

Gravity		Collections	
Potential OG:	1.062	First Runnings (gal):	2.90
OG:	1.033	SG of First Runnings:	
OG Temperature (F):	60	SG Temperature (F):	
Corrected OG:	1.033	Corrected SG:	
SG at Racking:	1.013	Second Runnings (gal):	5.60
SG Temperature (F):	60	SG of Second Runnings:	
Corrected SG:	1.013	SG Temperature (F):	
FG:	1.010	Corrected SG:	
FG Temperature (F):	62	Preboil Volume (gal):	8.50
Corrected FG:	1.010	SG of Preboil Volume:	
Potential ABV:	5.5%	SG Temperature (F):	
Actual ABV:	3.0%	Corrected SG:	

Brewing			
Batch Size (gal):	5.50	Desired Sparge Temperature (F):	168
Total Grain Weight (lbs):	9.25	Sparge Water (gal):	4.51
Grain Temperature (F):	66	Sparge Water Temperature (F):	177
Mash Ratio (qts/lb):	1.25	Estimated Preboil Volume (gal):	7.59
Mash/Lauter Deadspace (gal):	0.25	Boil Time (min):	60
Total Water Needed (gal):	8.99	Evaporation Rate (%):	13%
Desired Mash Temperature (F):	152	Estimated Evaporation Loss (gal):	0.99
Strike Water (gal):	2.89	Trub Loss (gal):	1.10
Strike Temperature (F):	169	Volume Left in Kettle (gal):	0.50
Grain Absorption (gal):	1.16	Actual Evaporation Rate (%):	15%
Mash-out Temperature (F):	148	Actual Evaporation Loss (gal):	1.30
Mash-out Water (gal):	1.60		
Estimated First Runnings (gal):	3.08		

Carbonation	
CO2 Volume:	2.40
Bottling Temperature (F):	66
Priming Sugar (oz):	4.13
Forced Carbonation (lbs):	25.0

Inventory	
Bottles Remaining:	50
Gallons Remaining:	4.69
Date Checked:	04/30/10

Diacetyl Rest	
Target Fermentation Completion:	75%
Target SG for Diacetyl Rest:	1.014

BREW DAY

Single Infusion Mash (with Mash-out) and Batch Sparge Brew Schedule
Heat 2.89 gallons of mash water to 169F
Add grain and mash at 152F for 60 minutes
At T-40 to mash-out, heat 1.6 gallons of mash-out water on the stove to 210F
At T-25 to mash-out, heat 4.51 gallons of sparge water in the kettle to 177F
Mash-out with 1.6 gallons, mix and hold for 10 minutes
Vorlauf and collect first runnings (approx. 3.08 gallons)
Add 4.51 gallons to lauter tun, mix, hold for 10 minutes, and sparge
Vorlauf and collect second runnings (approx. 4.51 gallons)
Boil for a total of 60 minutes with the following hop schedule:
1 oz. Nugget @60 minute(s)
1 oz. Saaz (US) @5 minute(s)

Notes
Grains cracked by HBS about 3 weeks prior to brew day.
Strike water heated to 166F; mashed at 152F.
Mash-out temp was 148F. But it was cold outside.
Moved to cold fermentation (53F) on 2/3.
Diacetyl rest on 2/13.
A lot of diacetyl at racking. Racked anyways and lagering for a bit.
Will try to make a starter and do another diacetyl rest at 68F.
2000 mL starter added on 3/17; not much difference on 3/19; we'll see.
Better at bottling, but still diacetyl present.
This beer did not have much diacetyl. I think it had a large amount of DMS.
Next time, I'll boil for 90 minutes to help reduce the DMS.