

BREWSHEET v3.3 (2012-03-18)

user input  
calculated

Brew				
Name:	Smoke Your Ass			
Brew Date:	2012 May 28	Collected (gal):	5.50	
Rack Date:	2012 June 13	Racked (gal):	5.10	
Keq/Bottle Date:		Kegegs/Bottled (gal):		
	<b>Estimated</b>		<b>Actual</b>	
ABV (%):	4.8%	ABV (%):	5.2%	
OG (SG):	1.053	OG (SG):	1.055	
FG (SG):	1.016	FG (SG):	1.015	
IBU:	26.4	IBU:	26.8	
SRM:	22.4	SRM:	23.0	
IBU/Gravity Ratio:	0.50	IBU/Gravity Ratio:	0.49	

Grain	Pounds	Potential	SG Share	Color	% Bill
Rauch malt	7.00	1.037	0.033	4.0	58.33%
Munich Malt 10L	2.00	1.035	0.009	10.0	16.67%
Vienna Malt	1.00	1.036	0.005	3.5	8.33%
British carastan	1.00	1.035	0.004	34.0	8.33%
German carafa	0.50	1.030	0.002	400.0	4.17%
Rice hulls	0.50	1.000	0.000	0.0	4.17%

Hop	Type	Ounces	Boil Time	Alpha %	IBU	% Bill
Hallertauer (GR)	P	2.00	60	4.3%	26.4	100.00%

Design Notes	

Batch Variables and Calculations	
Batch Size (gal):	5.50
Grain Temperature (F):	79
Total Grain Weight (lbs):	12.00
Mash	
Mash Time (min):	60
Desired Mash Temperature (F):	153
Strike Water (gal):	5.50
Strike Temperature (F):	168
Mash Ratio (qts/lb):	1.83
Grain Absorption (gal):	1.50
Mash Volume (gal):	6.46
Mash-out Temperature (F):	169
Estimated First Runnings (gal):	3.86
First Runnings (gal):	4.05
First Runnings Gravity (Brix):	15.35
First Runnings Gravity (SG):	1.060

Sparge	
Desired Sparge Temperature (F):	170
Sparge Water (gal):	3.39
Sparge Water Temperature (F):	175
Estimated Second Runnings (gal):	3.86
Second Runnings (gal):	3.70
Second Runnings Gravity (Brix):	5.40
Second Runnings Gravity (SG):	1.021
Estimated Preboil Volume (gal):	7.72
Estimated Preboil Gravity (Brix):	10.60
Preboil Volume (gal):	7.75
Preboil Gravity (Brix):	10.85
Preboil Gravity (SG):	1.042
Extraction Efficiency (%):	79%

Boil	
Boil Time (min):	60
Estimated Evaporation Loss (gal):	1.36
Hop Absorption (gal):	0.05
Volume Left in Kettle (gal):	-0.20
Actual Evaporation Rate (gal/hr):	1.59
Actual Evaporation Loss (gal):	1.59
Original Gravity (Brix):	14.18
Batch Size Efficiency (%):	73%
Actual Efficiency (%):	70%

Fermentation	
Primary Fermentation (days):	14
Primary Fermentation Temperature (F):	54
Gravity After Primary Fermentation (SG):	1.020
Temperature of Reading (F):	56
Corrected SG:	1.019
Secondary Fermentation (days):	3
Secondary Fermentation Temperature (F):	64
Gravity After Secondary Fermentation (SG):	1.016
Temperature of Reading (F):	66
Corrected SG:	1.015
Tertiary Fermentation (days):	42
Tertiary Fermentation Temperature (F):	35
Final Gravity (SG):	1.017
Temperature of Reading (F):	40
Corrected SG:	1.015
Target Fermentation for Diacetyl Rest (%):	85%
Target Gravity for Diacetyl Rest (SG):	1.022
Calories per Pint:	183
12 oz. Bottles Required:	

Carbonation	
Bottling Temperature (F):	
Volumes of CO2:	
Priming Sugar (oz):	2.40
DME (oz):	
Forced Carbonation (lbs):	

System Variables	
Brewhouse Efficiency (%):	70%
Volume in Hoses (gal):	0.22
Volume in Wort Chiller (gal):	0.19
Volume in HERMS Coil (gal):	0.25
Mash/Lauter Tun Deadspace (gal):	0.14
Strike to Sparge Volume Ratio (%):	50%
Trub Loss (gal):	0.16
FWH IBU Factor (%):	10%
Mash Temperature Factor (F):	7
Sparge Temperature Factor (F):	4
Estimated Evaporation Rate (gal/hr):	1.36
Leaf Hop Absorption Ratio (qts/oz):	0.20
Pellet Hop Absorption Ratio (qts/oz):	0.10
Cooling Losses (%):	4%
Hydrometer Correction (SG):	-0.001

BJCP Style Guidelines	
Style:	Classic Rauchbier
Code:	22A
OG:	1.050-1.057
FG:	1.012-1.016
IBU:	20.0-30.0
SRM:	12.0-22.0
ABV:	4.8-6.0%
CO2:	2.2-2.6

Yeast Strain	
Yeast Strain:	Fermentis Safalger S-23 (Dry Lager)
Type:	Dry Lager
Attenuation (%):	65-75%
Actual Attenuation (%):	72%
Fermentation Temp (F):	48-59F
Flocculation:	high

Required Amounts	
Call Count (billions):	406
Vials (White Labs/Wyeast):	
Dry Yeast (g):	20.3

Yeast Starter/Slurry	
Vials (White Labs/Wyeast):	
Date Yeast Produced:	
Yeast Viability (%):	
Yeast Growth Rate:	
Yeast Inoculation Rate (million/ml):	
Starter Volume Required (ml):	
DME Required (oz):	
Yeast slurry concentration (billion/ml):	2.5
Non-yeast Percentage (%):	20%
Yeast Slurry Required (ml):	

User Variables	

Batch Scaling				
Desired OG:		Total Weight (lbs):		
Batch Size (gal):		Total Bill:		
Brewhouse Efficiency (%):				
Grain	Pounds	Potential	Color	% Bill

Poundage		
Gal (lbs):	7.00	
Amount (lbs   oz_f_oz):	2	5.21
Amount (lbs   oz_f_oz):	2	2.96
Amount (lbs   oz_f_oz):	0	7.27
Amount (lbs   oz_f_oz):	0	15.94
Amount (lbs   oz_f_oz):	1	0.05
Amount (lbs   oz_f_oz):		
Amount (lbs   oz_f_oz):		
Amount (lbs   oz_f_oz):		
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Amount (lbs   oz_f_oz):		
Amount (lbs   oz_f_oz):		
Amount (lbs   oz_f_oz):		
Needed (lbs   oz_f_oz):	0	0.57

Hydrometer Correction	
SG:	1.017
Temperature (F):	63
Corrected SG:	1.016

Gravity Calculator	
Brix:	
Specific Gravity:	
Degrees Plato:	

Brix Ethanol Correction	
Original Brix:	
Current Brix:	
SG:	

Brewing Notes	
Pitched dry yeast in 10x its weight of sterile water at 73.4F.	6/5: nice and smoky, clean, crisp.
Let sit for ~15 min; then put on stir plate for ~30 min.	Good level of bitterness, nice malt undertones that fade to reveal a smokiness that lingers.
Wort was ~78F after cooling.	Aroma is also smoke, very crisp and clean.
Let cool to 58F then pitched yeast.	Overall, this is a great brew!
Forgot to aerate.	
5/29: No fermentation yet; 1.055 SG (temp was 50F); aerated for 30s.	
5/31: 1.049 SG with nice krausen.	
6/2: 1.048 SG with nice krausen.	
6/4: noticeable bubbling coming out of the airlock.	
6/5: 1.029 SG with slight sulfur smell.	
Target of ~1.022 SG for diacetyl rest.	
Check again tomorrow morning.	
6/8: 1.019 SG; increasing temp to 64 over three days.	
Sample was tasty and nice and smoky; no diacetyl detected in the fermentation temp sample.	
Warmed sample to ~73F; no diacetyl detected.	
6/9: beer still at 54.3F; increased chamber temp to 64F.	
6/12: 1.016 SG.	
No noticeable diacetyl in the fermentation temp sample.	
No noticeable diacetyl in warmed sample.	