BREWSHEET v3.4 (2014-12-14)

user input
calculated

Brew

Name:	SMaSHing Red		
Brew Date:	2015 July 19	Collected (gal):	5.50
Rack Date:		Racked (gal):	
Keg/Bottle Date:	2015 August 23	Kegged/Bottled (gal):	5.00

Estimated		Actual	
ABV (%):	5.3%	ABV (%):	4.8%
OG (SG):	1.050	OG (SG):	1.048
FG (SG):	1.010	FG (SG):	1.011
IBU:	41.0	IBU:	41.8
SRM:	12.9	SRM:	12.9
IBU/Gravity Ratio:	0.81	IBU/Gravity Ratio:	0.87

Grain	Pounds	Potential	SG Share	Color	% Bill
Maris Otter Malt	9.50	1.038	0.046	4.0	90.48%
Caramel/Crystal 90L	1.00	1.034	0.004	90.0	9.52%

Hop	Type	Ounces	Boil Time	Alpha %	IBU	% Bill
Amarillo	P	1.80	fwh	4.7%	29.2	16.22%
Amarillo	P	4.00	5	4.7%	11.8	36.04%
Amarillo	P	3.04	0	4.7%	0.0	27.39%
Amarillo	P	2.26	dry	4.7%	0.0	20.36%

Design Notes

Batch Variables and Calculations

Batch Size (gal):	5.50
Grain Temperature (F):	83
Total Grain Weight (lbs):	10.50

Mash

Mash Time (min):	60
Desired Mash Temperature (F):	153
Strike Water (gal):	5.37
Strike Temperature (F):	167
Mash Ratio (qts/lb):	2.05
Grain Absorption (gal):	1.31
Mash Volume (gal):	6.21
Mash-out Temperature (F):	168
Estimated First Runnings (gal):	3.92
First Runnings (gal):	4.25
First Runnings Gravity (Brix):	13.60
First Runnings Gravity (SG):	1.053

Sparge

Desired Sparge Temperature (F):	168
Sparge Water (gal):	3.45
Sparge Water Temperature (F):	172
Estimated Second Runnings (gal):	3.92
Second Runnings (gal):	3.55
Second Runnings Gravity (Brix):	6.00
Second Runnings Gravity (SG):	1.023
Estimated Preboil Volume (gal):	7.83
Estimated Preboil Gravity (Brix):	10.14
Preboil Volume (gal):	7.80
Preboil Gravity (Brix):	10.40
Preboil Gravity (SG):	1.040
Extraction Efficiency (%):	80%

Boil

Boil Time (min):	60
Estimated Evaporation Loss (gal):	1.30
Hop Absorption (gal):	0.22
Volume Left in Kettle (gal):	0.00
Actual Evaporation Rate (gal/hr):	1.27
Actual Evaporation Loss (gal):	1.27
Original Gravity (Brix):	12.34
Batch Size Efficiency (%):	67%
Actual Efficiency (%):	67%

Fermentation

Primary Fermentation (days):	14
Primary Fermentation Temperature (F):	64
Gravity After Primary Fermentation (SG):	
Temperature of Reading (F):	
Corrected SG:	
Secondary Fermentation (days):	3
Secondary Fermentation Temperature (F):	32
Gravity After Secondary Fermentation (SG):	
Temperature of Reading (F):	
Corrected SG:	
Tertiary Fermentation (days):	
Tertiary Fermentation Temperature (F):	
Final Gravity (SG):	1.011
Temperature of Reading (F):	41
Corrected SG:	1.011
Target Fermentation for Diacetyl Rest (%):	
Target Gravity for Diacetyl Rest (SG):	
Calories per Pint:	158
12 oz. Bottles Required:	51

Carbonation

Bottling Temperature (F):	
Volumes of CO2:	2.45
Priming Sugar (oz):	
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%
Strike Temperature Factor (F):	7
Sparge Temperature Factor (F):	4
Estimated Evaporation Rate (gal/hr):	1.30
Leaf Hop Absorption Ratio (qts/oz):	0.40
Pellet Hop Absorption Ratio (qts/ oz):	0.10
Cooling Losses (%):	4%
Hydrometer Correction (SG):	0.001

BJCP Style Guidelines

Style:	American Amber Ale
Code:	10B
OG:	1.045-1.060
FG:	1.010-1.015
IBU:	25.0-40.0+
SRM:	10.0-17.0
ABV:	4.5-6.0%
CO2:	2.2-2.7

Yeast Strain

Yeast Strain:	Danstar Nottingham (Dry Ale)
Type:	Dry Ale
Attenuation (%):	75-85%
Actual Attenuation (%):	77%
Fermentation Temp (F):	57-70F
Flocculation:	high

Required Amounts

Cell Count (billions):	194
Vials (White Labs/Wyeast):	
Dry Yeast (g):	9.7

Yeast Starter/Slurry

Vials (White Labs/Wyeast):	
Date Yeast Produced:	
Yeast Viability (%):	
Yeast Growth Rate:	
Yeast Innoculation 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:	1.050	Total Weight (lbs):	10.45
Batch Size (gal):	5.50	Total Bill:	100.00%
Brewhouse Efficiency (%):	70%		

Grain	Pounds	Potential	Color	% Bill
Maris Otter Malt	9.40	1.038	4.0	90.00%
Caramel/Crystal 60L	1.04	1.034	60.0	10.00%

Poundage

Goal (lbs):	9.50	
Amount (lbs | oz.f_oz):	2	4.51
Amount (lbs | oz.f_oz):	2	4.19
Amount (lbs | oz.f_oz):	2	7.08
Amount (lbs | oz.f_oz):	1	6.86
Amount (lbs | oz.f_oz):	1	1.36
Amount (lbs | oz.f_oz):		
Amount (lbs | oz.f_oz):		
Amount (lbs | oz.f_oz):		
Amount (lbs | oz.f_oz):		
Amount (lbs | oz.f_oz):		
Amount (lbs | oz.f_oz):		
Amount (lbs | oz.f_oz):		
Needed (lbs | oz.f_oz):	0	0.00

Hydrometer Correction

SG:	1.044
Temperature (F):	83
Corrected SG:	1.048

Gravity Calculator

Brix:	11.30	12.34
Specific Gravity:	1.044	1.048
Degrees Plato:	10.88	11.84

Brix Ethanol Correction

Original Brix:	
Current Brix:	
SG:	

Brewing Notes

8/17: dry hopped (after getting back from vacation).
Plan to dry hop for 3 days, then cold crash for 3 days, then keg.
8/23: Aroma is fresh citrus (white grapefruit) and clean; flavor is citrusy, initially bitter which fades to reveal a slight astringency reminiscent of eating a grapefruit.
Sample left to warm showed no signs of diacetyl. Delicious brew!