BREWSHEET v3.3 (2012-03-18)

user input
calculated

Brew			
Name:	Amber Experiment		
Brew Date:	2012 August 11	Collected (gal):	10.95
Rack Date:		Racked (gal):	
Keg/Bottle Date:	2012 September 2	Kegged/Bottled (gal):	10.00
Estimated		**Actual**	
ABV (%):	4.5%	ABV (%):	4.7%
OG (SG):	1.050	OG (SG):	1.051
FG (SG):	1.015	FG (SG):	1.015
IBU:	33.9	IBU:	33.6
SRM:	13.3	SRM:	13.4
IBU/Gravity Ratio:	0.68	IBU/Gravity Ratio:	0.65

Grain	Pounds	Potential	SG Share	Color	% Bill
Northwestern Pale Ale malt	14.50	1.036	0.033	2.8	63.04%
Munich Malt 10L	3.50	1.035	0.008	10.0	15.22%
British carastan	3.00	1.035	0.007	34.0	13.04%
Caramel/Crystal 90L	1.00	1.034	0.002	90.0	4.35%
Rice hulls	1.00	1.000	0.000	0.0	4.35%

Hop	Type	Ounces	Boil Time	Alpha %	IBU	% Bill
Warrior	P	1.13	60	15.8%	28.0	27.27%
Cascade	P	0.50	15	5.5%	2.1	12.12%
Willamette	P	1.00	15	4.8%	3.8	24.24%
Cascade	P	0.50	0	5.5%	0.0	12.12%
Willamette	P	1.00	0	4.8%	0.0	24.24%

Design Notes

Boil about 2 gal of first runnings and reduce to 0.5 gal; add with 5 mins left in boil.
To account for this, adjust strike and sparge (add 0.375 gal to each).
Use White Labs Clarity-Ferm.
Check for diacetyl when fermented.
Ferment half with Windsor (1.015 estimated FG) and half with US-05 (1.011 estimated FG).
Add 0 min hops after recirculating to sanitize, right before collecting.

Batch Variables and Calculations	
Batch Size (gal):	11.00
Grain Temperature (F):	82
Total Grain Weight (lbs):	23.00
Mash	
Mash Time (min):	60
Desired Mash Temperature (F):	154
Strike Water (gal):	**10.26**
Strike Temperature (F):	169
Mash Ratio (qts/lb):	1.72
Grain Absorption (gal):	2.88
Mash Volume (gal):	11.72
Mash-out Temperature (F):	168
Estimated First Runnings (gal):	7.24
First Runnings (gal):	6.85
First Runnings Gravity (Brix):	15.20
First Runnings Gravity (SG):	1.059
Sparge	
Desired Sparge Temperature (F):	170
Sparge Water (gal):	**6.77**
Sparge Water Temperature (F):	175
Estimated Second Runnings (gal):	7.24
Second Runnings (gal):	6.60
Second Runnings Gravity (Brix):	5.90
Second Runnings Gravity (SG):	1.023
Estimated Preboil Volume (gal):	13.73
Estimated Preboil Gravity (Brix):	10.64
Preboil Volume (gal):	13.45
Preboil Gravity (Brix):	10.40
Preboil Gravity (SG):	1.040
Extraction Efficiency (%):	69%
Boil	
Boil Time (min):	70
Estimated Evaporation Loss (gal):	1.58
Hop Absorption (gal):	0.10
Volume Left in Kettle (gal):	0.00
Actual Evaporation Rate (gal/hr):	1.16
Actual Evaporation Loss (gal):	1.36
Original Gravity (Brix):	13.26
Batch Size Efficiency (%):	72%
Actual Efficiency (%):	72%
Fermentation	
Primary Fermentation (days):	14
Primary Fermentation Temperature (F):	65
Gravity After Primary Fermentation (SG):	
Temperature of Reading (F):	
Corrected SG:	
Secondary Fermentation (days):	3
Secondary Fermentation Temperature (F):	35
Gravity After Secondary Fermentation (SG):	
Temperature of Reading (F):	
Corrected SG:	
Tertiary Fermentation (days):	
Tertiary Fermentation Temperature (F):	
Final Gravity (SG):	1.016
Temperature of Reading (F):	60
Corrected SG:	1.015
Target Fermentation for Diacetyl Rest (%):	
Target Gravity for Diacetyl Rest (SG):	
Calories per Pint:	172
12 oz. Bottles Required:	102
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):	1.36
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:	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 Windsor (Dry Ale)
Type:	Dry Ale
Attenuation (%):	67-72%
Actual Attenuation (%):	70%
Fermentation Temp (F):	64-70F
Flocculation:	medium

Required Amounts	
Cell Count (billions):	384
Vials (White Labs/Wyeast):	
Dry Yeast (g):	19.3
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:		Total Weight (lbs):	
Batch Size (gal):		Total Bill:	
Brewhouse Efficiency (%):			

Grain	Pounds	Potential	Color	% Bill

Poundage		
Goal (lbs):	14.50	
Amount (lbs | oz.f_oz):	2	1.58
Amount (lbs | oz.f_oz):	2	6.13
Amount (lbs | oz.f_oz):	2	4.40
Amount (lbs | oz.f_oz):	2	8.56
Amount (lbs | oz.f_oz):	2	10.65
Amount (lbs | oz.f_oz):	2	4.58
Amount (lbs | oz.f_oz):		4.10
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:	1.014	
Temperature (F):	67	
Corrected SG:	1.014	

Gravity Calculator			
Brix:	12.40	13.26	
Specific Gravity:	1.048	1.051	
Degrees Plato:	11.89	12.67	

Brix Ethanol Correction	
Original Brix:	
Current Brix:	
SG:	

Brewing Notes

Added 10 min to boil.
8/28: US-05: 1.014 SG (4.9% ABV, 73% attenuation); good hoppy aroma, malt flavor; great bitterness.
Still ~0.5" krausen; increased temp to 72F.
Windsor: 1.022 SG (3.9% ABV, 58% attenuation); more well rounded than the US-05 batch; not sweet
Less bitterness, a bit more malty, better aroma; no krausen.
These still have some time to go; check again in 4 days.
8/30: cold crashed.
9/2: US-05: 1.012 SG (5.2% ABV, 76% attenuation).
Feels more bitter and dry than the Windsor, but still has nice maltiness.
Windsor: 1.018 SG (4.4% ABV, 65% attenuation).
Avg: 1.015 SG.
4/7: This turned out to be quite inferior. It was like a rookie's homebrew.
I will most likely NOT brew this again as there are much better brews of a similar style.
9/21/13: dumped; still inferior and "homebrew-ish."