BREWSHEET v3.3 (2012-03-18)

user input
calculated

Brew			
Name:	Mythical Haven Imperial ESB		
Brew Date:	2013 February 2	Collected (gal):	5.50
Rack Date:		Racked (gal):	
Keg/Bottle Date:	2013 February 27	Kegged/Bottled (gal):	5.00
Estimated		**Actual**	
ABV (%):	7.3%	ABV (%):	7.4%
OG (SG):	1.070	OG (SG):	1.070
FG (SG):	1.014	FG (SG):	1.013
IBU:	89.9	IBU:	89.8
SRM:	13.1	SRM:	13.1
IBU/Gravity Ratio:	1.29	IBU/Gravity Ratio:	1.28

Grain	Pounds	Potential	SG Share	Color	% Bill
Northwestern Pale Ale malt	13.32	1.036	0.061	2.8	86.95%
British carastan	1.00	1.035	0.004	34.0	6.53%
Caramel/Crystal 60L	1.00	1.034	0.004	60.0	6.53%

Hop	Type	Ounces	Boil Time	Alpha %	IBU	% Bill
Northern Brewer (GR)	L	1.00	90	10.0%	24.5	17.79%
Columbus	L	1.00	90	16.1%	39.4	17.79%
Cascade	L	1.00	30	8.8%	15.5	17.79%
Columbus	L	0.50	15	16.1%	9.1	8.90%
Northern Brewer (GR)	L	0.12	15	10.0%	1.4	2.14%
Cascade	L	1.00	0	8.8%	0.0	17.79%
Cascade	P	0.50	dry	6.4%	0.0	8.90%
Columbus	P	0.50	dry	12.9%	0.0	8.90%

Design Notes

Tallgrass Oasis clone.
Targets: 1.072 OG, 7.2% ABV, 93 IBUs; use WLP007.
Chill wort to 67F before pitching.
Add hops at specified times; whirlpool for 20 min.

Batch Variables and Calculations	
Batch Size (gal):	5.50
Grain Temperature (F):	73
Total Grain Weight (lbs):	15.32
Mash	
Mash Time (min):	60
Desired Mash Temperature (F):	154
Strike Water (gal):	6.39
Strike Temperature (F):	171
Mash Ratio (qts/lb):	1.67
Grain Absorption (gal):	1.92
Mash Volume (gal):	7.62
Mash-out Temperature (F):	168
Estimated First Runnings (gal):	4.33
First Runnings (gal):	4.40
First Runnings Gravity (Brix):	16.00
First Runnings Gravity (SG):	1.062
Sparge	
Desired Sparge Temperature (F):	168
Sparge Water (gal):	3.87
Sparge Water Temperature (F):	172
Estimated Second Runnings (gal):	4.34
Second Runnings (gal):	3.64
Second Runnings Gravity (Brix):	7.00
Second Runnings Gravity (SG):	1.027
Estimated Preboil Volume (gal):	8.67
Estimated Preboil Gravity (Brix):	11.93
Preboil Volume (gal):	8.04
Preboil Gravity (Brix):	12.20
Preboil Gravity (SG):	1.047
Extraction Efficiency (%):	69%
Boil	
Boil Time (min):	90
Estimated Evaporation Loss (gal):	1.90
Hop Absorption (gal):	0.46
Volume Left in Kettle (gal):	0.00
Actual Evaporation Rate (gal/hr):	0.84
Actual Evaporation Loss (gal):	1.27
Original Gravity (Brix):	18.03
Batch Size Efficiency (%):	70%
Actual Efficiency (%):	70%
Fermentation	
Primary Fermentation (days):	14
Primary Fermentation Temperature (F):	67
Gravity After Primary Fermentation (SG):	
Temperature of Reading (F):	
Corrected SG:	
Secondary Fermentation (days):	21
Secondary Fermentation Temperature (F):	70
Gravity After Secondary Fermentation (SG):	
Temperature of Reading (F):	
Corrected SG:	
Tertiary Fermentation (days):	3
Tertiary Fermentation Temperature (F):	32
Final Gravity (SG):	1.014
Temperature of Reading (F):	41
Corrected SG:	1.013
Target Fermentation for Diacetyl Rest (%):	
Target Gravity for Diacetyl Rest (SG):	
Calories per Pint:	230
12 oz. Bottles Required:	51
Carbonation	
Bottling Temperature (F):	
Volumes of CO2:	1.00
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):	1.26
Leaf Hop Absorption Ratio (qts/oz):	0.40
Pellet Hop Absorption Ratio (qts/ oz):	0.10
Cooling Losses (%):	4%
Hydrometer Correction (SG):	0.000

BJCP Style Guidelines	
Style:	Extra Special/Strong Bitter (English Pale Al
Code:	8C
OG:	1.048-1.060
FG:	1.010-1.016
IBU:	30.0-50.0
SRM:	6.0-18.0
ABV:	4.6-6.2%
CO2:	0.7-1.3

Yeast Strain	
Yeast Strain:	Danstar Nottingham (Dry Ale)
Type:	Dry Ale
Attenuation (%):	75-85%
Actual Attenuation (%):	81%
Fermentation Temp (F):	57-70F
Flocculation:	high

Required Amounts	
Cell Count (billions):	264
Vials (White Labs/Wyeast):	
Dry Yeast (g):	13.2

Yeast Starter/Slurry	
Vials (White Labs/Wyeast):	1
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:	1.070	Total Weight (lbs):		15.36
Batch Size (gal):	5.50	Total Bill:		100.00%
Brewhouse Efficiency (%):	70%			
Grain	**Pounds**	**Potential**	**Color**	**% Bill**
Northwestern Pale Ale malt	13.32	1.036	2.8	86.67%
Caramel/Crystal 60L	1.02	1.034	60.0	6.67%
British carastan	1.02	1.035	34.0	6.67%

Poundage		
Goal (lbs):		
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):		
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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):		

Hydrometer Correction		
SG:	1.070	
Temperature (F):	57	
Corrected SG:	1.070	

Gravity Calculator			
Brix:		18.03	
Specific Gravity:		1.070	
Degrees Plato:		16.93	

Brix Ethanol Correction	
Original Brix:	
Current Brix:	
SG:	

Brewing Notes

2/2: Swapped 007 with Nottingham (last minute brew day decision).
IBUs should have been 75 but were 85 due to higher AA on Northern Brewer.
Extended boil to 90 min
60 min hops now at 90 min; raises IBUs from 85 to 90.
2/4: woke up to a blow-off; replaced lid and added a blow-off tube.
Lid buckled and another blow-off 6 hours later.
2/16: dry hopped.
2/27: kegged.
Quite dry with a slight hop aroma and a hint of malt; slight alcohol.
Flavor is some hops with a nice stiff bitterness and a light malt aftertaste.