BREWSHEET v3.3 (2012-03-18)

user input
calculated

Brew			
Name:	Trippin' on the Tripel		
Brew Date:	2012 March 5	Collected (gal):	5.50
Rack Date:		Racked (gal):	
Keg/Bottle Date:	2012 April 9	Kegged/Bottled (gal):	5.00
Estimated		**Actual**	
ABV (%):	8.5%	ABV (%):	9.0%
OG (SG):	1.084	OG (SG):	1.081
FG (SG):	1.019	FG (SG):	1.012
IBU:	28.6	IBU:	29.3
SRM:	6.6	SRM:	6.6
IBU/Gravity Ratio:	0.34	IBU/Gravity Ratio:	0.36

Grain	Pounds	Potential	SG Share	Color	% Bill
Pilsner (2-Row) Germany	14.00	1.037	0.066	2.0	77.97%
Munich Malt 10L	1.13	1.035	0.005	10.0	6.27%
Belgian aromatic malt	0.25	1.036	0.001	26.0	1.39%
Belgian candi syrup d-1	2.00	1.032	**0.012**	1.0	11.14%
Rice hulls	0.58	1.000	0.000	0.0	3.23%

Hop	Type	Ounces	Boil Time	Alpha %	IBU	% Bill
Tettnanger (GR)	P	2.00	60	3.9%	18.1	57.14%
Tettnanger (GR)	P	1.50	30	3.9%	10.4	42.86%

Design Notes

Mash at 146F for 60 min then at 156F for 30 min; mash-out at 168F for 10 min.
Add candi syrup at 10 min left in boil.
Ferment at 64 for 24 to 48 hours; then let the yeast rise the temp to 78F until fermentation is done.
Rack to secondary for a month after fermentation is done.

Batch Variables and Calculations	
Batch Size (gal):	5.50
Grain Temperature (F):	68
Total Grain Weight (lbs):	17.96
Mash	
Mash Time (min):	90
Desired Mash Temperature (F):	**146**
Strike Water (gal):	6.72
Strike Temperature (F):	163
Mash Ratio (qts/lb):	1.50
Grain Absorption (gal):	2.24
Mash Volume (gal):	8.16
Mash-out Temperature (F):	168
Estimated First Runnings (gal):	4.34
First Runnings (gal):	4.35
First Runnings Gravity (Brix):	18.40
First Runnings Gravity (SG):	1.071
Sparge	
Desired Sparge Temperature (F):	170
Sparge Water (gal):	3.87
Sparge Water Temperature (F):	176
Estimated Second Runnings (gal):	4.34
Second Runnings (gal):	4.20
Second Runnings Gravity (Brix):	8.15
Second Runnings Gravity (SG):	1.032
Estimated Preboil Volume (gal):	8.68
Estimated Preboil Gravity (Brix):	13.36
Preboil Volume (gal):	8.55
Preboil Gravity (Brix):	14.10
Preboil Gravity (SG):	1.055
Extraction Efficiency (%):	74%
Boil	
Boil Time (min):	105
Estimated Evaporation Loss (gal):	2.28
Hop Absorption (gal):	0.09
Volume Left in Kettle (gal):	0.00
Actual Evaporation Rate (gal/hr):	1.23
Actual Evaporation Loss (gal):	2.15
Original Gravity (Brix):	20.88
Batch Size Efficiency (%):	71%
Actual Efficiency (%):	71%
Fermentation	
Primary Fermentation (days):	14
Primary Fermentation Temperature (F):	64-78
Gravity After Primary Fermentation (SG):	1.011
Temperature of Reading (F):	73
Corrected SG:	1.012
Secondary Fermentation (days):	28
Secondary Fermentation Temperature (F):	65
Gravity After Secondary Fermentation (SG):	
Temperature of Reading (F):	
Corrected SG:	
Tertiary Fermentation (days):	3
Tertiary Fermentation Temperature (F):	40
Final Gravity (SG):	1.012
Temperature of Reading (F):	71
Corrected SG:	1.012
Target Fermentation for Diacetyl Rest (%):	80%
Target Gravity for Diacetyl Rest (SG):	1.031
Calories per Pint:	265
12 oz. Bottles Required:	51
Carbonation	
Bottling Temperature (F):	78
Volumes of CO2:	2.60
Priming Sugar (oz):	4.96
DME (oz):	6.95
Forced Carbonation (lbs):	35.3

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):	0.20
Pellet Hop Absorption Ratio (qts/ oz):	0.10
Cooling Losses (%):	4%
Hydrometer Correction (SG):	-0.001

BJCP Style Guidelines	
Style:	Belgian Tripel
Code:	18C
OG:	1.075-1.085
FG:	1.008-1.014
IBU:	20.0-40.0
SRM:	4.0-7.0
ABV:	7.5-9.0%
CO2:	1.9-2.4

Yeast Strain	
Yeast Strain:	White Labs WLP500 (Trappist Ale)
Type:	Trappist Ale
Attenuation (%):	75-80%
Actual Attenuation (%):	85%
Fermentation Temp (F):	65-72F
Flocculation:	medium-low

Required Amounts	
Cell Count (billions):	312
Vials (White Labs/Wyeast):	4.0
Dry Yeast (g):	15.7

Yeast Starter/Slurry	
Vials (White Labs/Wyeast):	1
Date Yeast Produced:	2012 January 31
Yeast Viability (%):	78%
Yeast Growth Rate:	4.02
Yeast Innoculation Rate (million/ml):	26.86
Starter Volume Required (ml):	**2500**
DME Required (oz):	8.13
Yeast slurry concentration (billion/ml):	2.5
Non-yeast Percentage (%):	20%
Yeast Slurry Required (ml):	179

User Variables	

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

Poundage		
Goal (lbs):		
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:		
Temperature (F):		
Corrected SG:		

Gravity Calculator			
Brix:			
Specific Gravity:			
Degrees Plato:			

Brix Ethanol Correction	
Original Brix:	
Current Brix:	
SG:	

Brewing Notes

3/5: stepped out to get some supplies; mash went from 146F to 152F; brought back down.
Extend mash at 146F for 15 mins.
Went back down to 146F in ~25 mins.
Added 15 mins to boil to match observed evaporation rate.
1.081 SG refrac reading on hot side.
You mean it and the hydro sample match?!
~4 hrs later; 67.8F with an ambient temp of 65F.
Going to leave outside overnight (low of 43F) like the quad.
3/6: 61.3F; brought inside and replaced airlock with a small blowoff; will swap with larger one later today.
3/8: 1.027 SG; temp got up to ~73F; removed blowoff; krausen is more like beer foam and thin on top.
3/13: 1.013 SG; 71.9F; no krausen on top.
3/18: 1.012 SG; 9.1% ABV; no krausen.
3/23: 1.011 SG; 9.1% ABV; 86% attenuation; no krausen.
4/9: kegged; added 4.96 oz dextrose to the keg for priming and conditioning.
Should get me to 2.6 vols CO2; rest will be forced.
Didn't cold crash, but it's crystal clear!
Did not add gelatin.
Great aroma and flavor; slight alcohol warmness.
I don't get much in terms of bananas or cloves.

5/14: Decided to move back to room temp to dry out a bit.
Roused the yeast by shaking the keg several times over a month.
6/12: oh my! No residual sweetness! Crystal clear! Ready to go!