BREWSHEET v3.3 (2012-03-18)

user input
calculated

Brew			
Name:	Dos Testes		
Brew Date:	2013 June 9	Collected (gal):	10.75
Rack Date:		Racked (gal):	
Keg/Bottle Date:	2013 June 30	Kegged/Bottled (gal):	10.00
Estimated		**Actual**	
ABV (%):	3.9%	ABV (%):	4.1%
OG (SG):	1.040	OG (SG):	1.043
FG (SG):	1.010	FG (SG):	1.012
IBU:	15.8	IBU:	15.7
SRM:	3.7	SRM:	3.8
IBU/Gravity Ratio:	0.39	IBU/Gravity Ratio:	0.37

Grain	Pounds	Potential	SG Share	Color	% Bill
Northwestern Pale Ale malt	11.00	1.036	0.025	2.8	62.86%
Pilsner (2-Row) Germany	2.00	1.037	0.005	2.0	11.43%
Carapils/Dextrine	1.00	1.033	0.002	2.0	5.71%
Flaked Corn	3.50	1.037	0.008	1.3	20.00%

Hop	Type	Ounces	Boil Time	Alpha %	IBU	% Bill
Hallertauer (GR)	P	1.00	60	4.3%	7.4	30.30%
Hallertauer (GR)	P	1.00	20	4.3%	4.5	30.30%
Hersbrucker	P	0.30	20	2.5%	0.8	9.09%
Saaz (CZ)	P	1.00	20	3.0%	3.1	30.30%

Design Notes

Miscalculated pilsner on hand; lowered it from 5# to 2#, increased NW Pale from 8# to 11#.

Batch Variables and Calculations	
Batch Size (gal):	11.00
Grain Temperature (F):	79
Total Grain Weight (lbs):	17.50
Mash	
Mash Time (min):	60
Desired Mash Temperature (F):	150
Strike Water (gal):	9.21
Strike Temperature (F):	164
Mash Ratio (qts/lb):	2.11
Grain Absorption (gal):	2.19
Mash Volume (gal):	10.61
Mash-out Temperature (F):	168
Estimated First Runnings (gal):	6.88
First Runnings (gal):	7.40
First Runnings Gravity (Brix):	12.40
First Runnings Gravity (SG):	1.048
Sparge	
Desired Sparge Temperature (F):	170
Sparge Water (gal):	6.41
Sparge Water Temperature (F):	175
Estimated Second Runnings (gal):	6.88
Second Runnings (gal):	6.35
Second Runnings Gravity (Brix):	5.90
Second Runnings Gravity (SG):	1.023
Estimated Preboil Volume (gal):	13.77
Estimated Preboil Gravity (Brix):	9.40
Preboil Volume (gal):	13.75
Preboil Gravity (Brix):	9.10
Preboil Gravity (SG):	1.035
Extraction Efficiency (%):	77%
Boil	
Boil Time (min):	75
Estimated Evaporation Loss (gal):	1.64
Hop Absorption (gal):	0.08
Volume Left in Kettle (gal):	0.00
Actual Evaporation Rate (gal/hr):	1.51
Actual Evaporation Loss (gal):	1.89
Original Gravity (Brix):	11.04
Batch Size Efficiency (%):	75%
Actual Efficiency (%):	73%
Fermentation	
Primary Fermentation (days):	14
Primary Fermentation Temperature (F):	52
Gravity After Primary Fermentation (SG):	1.016
Temperature of Reading (F):	50
Corrected SG:	1.015
Secondary Fermentation (days):	2
Secondary Fermentation Temperature (F):	63
Gravity After Secondary Fermentation (SG):	
Temperature of Reading (F):	
Corrected SG:	
Tertiary Fermentation (days):	28
Tertiary Fermentation Temperature (F):	32
Final Gravity (SG):	1.012
Temperature of Reading (F):	65
Corrected SG:	1.012
Target Fermentation for Diacetyl Rest (%):	75%
Target Gravity for Diacetyl Rest (SG):	1.019
Calories per Pint:	142
12 oz. Bottles Required:	102
Carbonation	
Bottling Temperature (F):	
Volumes of CO2:	2.60
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):	1.31
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:	Lite American Lager
Code:	1A
OG:	1.028-1.040
FG:	0.998-1.008
IBU:	8.0-12.0
SRM:	2.0-3.0
ABV:	2.8-4.2%
CO2:	2.5-2.7

Yeast Strain	
Yeast Strain:	White Labs WLP940 (Mexican Lager)
Type:	Mexican Lager
Attenuation (%):	70-78%
Actual Attenuation (%):	73%
Fermentation Temp (F):	50-55F
Flocculation:	medium

Required Amounts	
Cell Count (billions):	626
Vials (White Labs/Wyeast):	9.0
Dry Yeast (g):	31.3
Yeast Starter/Slurry	
Vials (White Labs/Wyeast):	2
Date Yeast Produced:	2013 April 24
Yeast Viability (%):	70%
Yeast Growth Rate:	4.48
Yeast Innoculation Rate (million/ml):	21.2
Starter Volume Required (ml);	6590
DME Required (oz):	21.42
Yeast slurry concentration (billion/ml):	2.5
Non-yeast Percentage (%):	20%
Yeast Slurry Required (ml):	405

User Variables	

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

Poundage		
Goal (lbs):	11.00	
Amount (lbs | oz.f_oz):	2	11.42
Amount (lbs | oz.f_oz):	2	2.69
Amount (lbs | oz.f_oz):	2	3.34
Amount (lbs | oz.f_oz):	2	7.37
Amount (lbs | oz.f_oz):	1	7.18
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:	1.012	
Temperature (F):	65	
Corrected SG:	1.012	

Gravity Calculator			
Brix:	9.80	11.04	
Specific Gravity:	1.038	1.043	
Degrees Plato:	9.49	10.64	

Brix Ethanol Correction	
Original Brix:	
Current Brix:	
SG:	

Brewing Notes

Did not have time to make a starter; pitched one vial per 5.5 gal.
Changed boil time to 75 min.
6/22: 1st batch: 1.015 SG (ferment a few more days, then do a diacetyl rest).
2nd batch: 1.014 SG.
6/25: diacetyl rest.
6/30: racked to kegs and lager in beer fridge.