

BREWSHEET v3.3 (2012-03-18)

user input  
calculated

Brew			
Name:	Clorona		
Brew Date:	2013 June 30	Collected (gal):	11.00
Rack Date:		Racked (gal):	
Keg/Bottle Date:	2013 July 23	Kegged/Bottled (gal):	10.00
	<b>Estimated</b>	<b>Actual</b>	
ABV (%):	4.1%	ABV (%):	5.2%
OG (SG):	1.042	OG (SG):	1.047
FG (SG):	1.011	FG (SG):	1.008
IBU:	20.7	IBU:	19.8
SRM:	3.3	SRM:	3.3
IBU/Gravity Ratio:	0.49	IBU/Gravity Ratio:	0.42

Grain	Pounds	Potential	SG Share	Color	% Bill
Northwestern Pale Ale malt	12.00	1.036	0.027	2.8	66.67%
Carapils/Dextrine	1.00	1.033	0.002	2.0	5.56%
Corn sugar (dextrose)	5.00	1.040	0.013	0.0	27.78%

Hop	Type	Ounces	Boil Time	Alpha %	IBU	% Bill
Spalt (GR)	P	3.00	60	4.1%	20.7	54.55%
Hallertauer (GR)	P	2.50	0	4.3%	0.0	45.45%

Design Notes	
Add 5# corn sugar at beginning of boil.	
Pitch on top of Dos Testes yeast cakes.	
Zeroed dextrose to precisely calculate strike water.	

Batch Variables and Calculations	
Batch Size (gal):	11.00
Grain Temperature (F):	80
Total Grain Weight (lbs):	18.00
<b>Mash</b>	
Mash Time (min):	60
Desired Mash Temperature (F):	150
Strike Water (gal):	9.15
Strike Temperature (F):	164
Mash Ratio (qts/lb):	2.03
Grain Absorption (gal):	2.25
Mash Volume (gal):	10.59
Mash-out Temperature (F):	170
Estimated First Runnings (gal):	6.76
First Runnings (gal):	6.85
First Runnings Gravity (Brix):	9.50
First Runnings Gravity (SG):	1.037
<b>Sparge</b>	
Desired Sparge Temperature (F):	170
Sparge Water (gal):	6.29
Sparge Water Temperature (F):	174
Estimated Second Runnings (gal):	6.76
Second Runnings (gal):	6.67
Second Runnings Gravity (Brix):	4.00
Second Runnings Gravity (SG):	1.016
Estimated Preboil Volume (gal):	13.52
Estimated Preboil Gravity (Brix):	6.79
Preboil Volume (gal):	13.52
Preboil Gravity (Brix):	11.00
Preboil Gravity (SG):	1.043
Extraction Efficiency (%):	87%
<b>Boil</b>	
Boil Time (min):	60
Estimated Evaporation Loss (gal):	1.34
Hop Absorption (gal):	0.14
Volume Left in Kettle (gal):	0.00
Actual Evaporation Rate (gal/hr):	1.34
Actual Evaporation Loss (gal):	1.34
Original Gravity (Brix):	12.24
Batch Size Efficiency (%):	79%
Actual Efficiency (%):	79%
<b>Fermentation</b>	
Primary Fermentation (days):	14
Primary Fermentation Temperature (F):	52
Gravity After Primary Fermentation (SG):	
Temperature of Reading (F):	
Corrected SG:	
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):	1.008
Temperature of Reading (F):	65
Corrected SG:	1.008
Target Fermentation for Diacetyl Rest (%):	75%
Target Gravity for Diacetyl Rest (SG):	1.021
Calories per Pint:	155
12 oz. Bottles Required:	102
<b>Carbonation</b>	
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):	1.34
Leaf Hop Absorption Rate (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 (%):	84%
Fermentation Temp (F):	50-55F
Flocculation:	medium

Required Amounts	
Cell Count (billions):	657
Vials (White Labs/Wyeast):	
Dry Yeast (g):	32.9
<b>Yeast Starter/Slurry</b>	
Vials (White Labs/Wyeast):	
Date Yeast Produced:	
Yeast Viability (%):	
Yeast Growth Rate:	
Yeast Inoculation 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):	12.00	
Amount (lbs   oz_f_oz):	2	4.14
Amount (lbs   oz_f_oz):	2	10.05
Amount (lbs   oz_f_oz):	2	9.59
Amount (lbs   oz_f_oz):	2	8.99
Amount (lbs   oz_f_oz):	1	15.23
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):		
Needed (lbs   oz_f_oz):	0	0.00

Hydrometer Correction	
SG:	1.048
Temperature (F):	80
Corrected SG:	1.049

Gravity Calculator	
Brix:	12.40
Specific Gravity:	1.048
Degrees Plato:	11.89
	12.21

Brix Ethanol Correction	
Original Brix:	
Current Brix:	
SG:	

Brewing Notes	
Preboil SG without dextrose was 1.026 SG; added ~4# to get to 1.043 SG.	
Sprayed sanitizer inside fermenters with yeast cakes (inner upper rim and a bit below and let it slide down.	
Put new lids and airlocks.	
7/23: kegged (lager in the keg); both batches are exactly the same.	
Light and crisp; quite clean; very dry.	