

BREWSHEET v2.1 (2011-01-04)

Batch			
Brew Name:	Pilsner Aristocrat v2		
Bottle Top Code:	Calories per Pint:	154	
Estimated OG:	1.050	Actual OG:	1.046
Estimated FG:	1.012	Actual FG:	1.014
Estimated IBU:	36	Actual IBU:	40
Estimated SRM:		Actual SRM:	4
Brew Date:	01/28/11	Collected (gal):	5.00
Rack Date:	02/18/11	Racked (gal):	5.00
Bottle Date:	03/19/11	Bottled (gal):	5.00

BJCP Style Guidelines	
Style:	German Pilsner (Pils)
Code:	2A
OG:	1.044-1.050
FG:	1.008-1.013
IBU:	25.0-45.0
SRM:	2.0-5.0
ABV:	4.4-5.2%
CO2:	2.5-2.5

Inventory	
Bottles:	
Gallons:	
Date Checked:	

Efficiency	
Brewhouse:	73%
Batch Size:	67%
Into Boiler:	89%
Into Fermenter:	63%

Yeast Strain	
Yeast Strain:	White Labs WLP830 (German Lager)
Type:	German Lager
Attenuation (%):	74-79%
Actual Attenuation (%):	69%
Fermentation Temp (F):	50-55F
Flocculation:	medium

Yeast Amounts	
Cell Count (billions):	421
Vials (White Labs/Wyeast):	3.6
Dry Yeast (g):	21
Starter Volume (mL):	4500
DME Required (oz):	15.75
Vials Required (w/ Starter):	1.1

ON BREW DAY	
Heat 3.52 gallons of strike water to 171F	
Add grain and mash at 153F for 60 minutes	
Mash-out with 1.73 gallons at 210F, mix and hold for 10 minutes	
Vorlauf and collect first runnings (approx. 3.59 gallons)	
Add 5.56 gallons at 178F to lautur tun and sparge	
Vorlauf and collect second runnings (approx. 5.56 gallons)	
Boil for a total of 90 minutes with the following hop schedule:	
1.5 oz. Tettnanger (US) @60 minute(s)	
1 oz. Hersbrucker @15 minute(s)	
1.25 oz. Saaz (CZ) @15 minute(s)	
1.25 oz. Hallertauer (US) @15 minute(s)	
2 oz. Hallertauer (US) @0 minute(s)	
2 oz. Spalt (GR) @0 minute(s)	

Summary	
Pilsner Aristocrat v2	
Batch Size: 6.00 gal (9.15 gal preboil)	
Estimated OG: 1.050 SG (actual: 1.046 SG)	
Estimated FG: 1.012 SG (actual: 1.014 SG)	
Estimated IBUs: 36 (Finseth; actual: 40)	
Estimated Color: 4 SRM (actual: 4 SRM)	
Brewhouse Efficiency: 73% (actual: 67%)	
Boil Time: 90 minutes	
Grains:	
10.25# Pilsner (2-Row) Germany (2.0L) (91.11%)	
1.00# Carapils/Dextrine (2.0L) (8.89%)	

Grain	Pounds	Potential	SG Share	Color	% Bill
Pilsner (2-Row) Germany	10.25	1.037	0.046	2.0	91.11%
Carapils/Dextrine	1.00	1.033	0.004	2.0	8.89%

Brewing		
Batch Size (gal):	6.00	Estimated First Runnings (gal): 3.59
Total Grain Weight (lbs):	11.25	Desired Sparge Temperature (F): 170
Grain Temperature (F):	68	Sparge Water (gal): 5.56
Mash Ratio (qts/lb):	1.25	Sparge Water Temperature (F): 178
Mash/Lauter Deadspace (gal):	0.25	Estimated Preboil Volume (gal): 9.15
Total Water Needed (gal):	10.81	Boil Time (min): 90
Desired Mash Temperature (F):	153	Evaporation Rate (gal/hr): 1.60
Strike Water (gal):	3.52	Estimated Evaporation Loss (gal): 2.40
Strike Temperature (F):	171	Trub Loss (gal): 0.75
Grain Absorption (gal):	1.41	Volume Left in Kettle (gal): 0.00
Mash-out Temperature (F):	153	Actual Evaporation Rate (gal/hr): 1.87
Mash-out Water (gal):	1.73	Actual Evaporation Loss (gal): 2.80

Hop	Alpha %	Ounces	Boil Time	IBU	% Bill
Tettnanger (US)	4.7%	1.50	60	20.3	16.67%
Hersbrucker	2.5%	1.00	15	3.6	11.11%
Saaz (CZ)	3.9%	1.25	15	7.0	13.89%
Hallertauer (US)	3.0%	1.25	15	5.4	13.89%
Hallertauer (US)	3.0%	2.00	0	0.0	22.22%
Spalt (GR)	4.1%	2.00	0	0.0	22.22%

Gravity		Collections	
Potential OG:	1.069	First Runnings (gal):	3.75
OG:	1.046	SG of First Runnings:	1.063
OG Temperature (F):	60	SG Temperature (F):	60
Corrected OG:	1.046	Corrected SG:	1.063
SG at Racking:	1.014	Second Runnings (gal):	5.40
SG Temperature (F):	64	SG of Second Runnings:	1.022
Corrected SG:	1.015	SG Temperature (F):	60
FG:	1.015	Corrected SG:	1.022
FG Temperature (F):	44	Estimated Preboil SG:	1.039
Corrected FG:	1.014	Preboil Volume (gal):	9.15
Potential ABV (%):	6.6%	SG of Preboil Volume:	1.040
Actual ABV (%):	4.2%	SG Temperature (F):	60
IBU to Gravity Ratio:	0.87	Corrected SG:	1.040

Diacetyl Rest		Carbonation	
Target Fermentation Completion:		CO2 Volume:	2.50
Target SG for Diacetyl Rest:		Bottling Temperature (F):	
		Priming Sugar (oz):	
		DME (oz):	
		Forced Carbonation (lbs):	

Notes	
IBUs closer to 38 due to hop absorption.	
Harvested yeast from primary.	
2/12: Increased temp to 62F for diacetyl rest.	
2/16: No real noticeable diacetyl that I can make out.	
I get some of the hop flavor in the Noble Pils but we'll see!	
3/19: same sort of flavor and aroma as the Czech pilsner; but not too overpowering	
Nice right now; will be much better with CO2.	

User Variables	
12 oz. Bottles Required:	51
Primary Fermentation Temp. (F):	52
Secondary Fermentation Temp (F):	32
FNW/IBU Factor (%):	10%
Strike Temperature Factor (F):	4
Sparge Temperature Factor (F):	2
Specific Gravity (P):	11.5
Specific Gravity (SG):	1.046

Yeast:	
White Labs WLP830 (German Lager)	
Mash/Sparge Schedule:	
Single Infusion, 153F; Batch Sparge	
Mash for 60 min at 153F w/ 3.52 gal of water at 171F	
Mashout w/ 1.73 gal of water at 210F; hold for 10 min	
Batch sparge w/ 5.56 gal of water at 178F; hold for 10 min	
Fermentation Schedule:	
Primary Fermentation: 21 days @52F	
Secondary Fermentation: 29 days @32F	