

BREWSHEET v2.1 (2011-01-04)

| Batch            |                       |                  |       |
|------------------|-----------------------|------------------|-------|
| Brew Name:       | Noble Doormat (Spalt) |                  |       |
| Bottle Top Code: | Calories per Pint:    |                  | 144   |
| Estimated OG:    | 1.045                 | Actual OG:       | 1.043 |
| Estimated FG:    | 1.009                 | Actual FG:       | 1.013 |
| Estimated IBU:   | 35                    | Actual IBU:      | 33    |
| Estimated SRM:   |                       | Actual SRM:      | 5     |
| Brew Date:       | 03/07/11              | Collected (gal): | 5.85  |
| Rack Date:       | 04/09/11              | Racked (gal):    | 5.00  |
| Bottle Date:     | 04/09/11              | Bottled (gal):   | 5.00  |

| BJCP Style Guidelines |                   |
|-----------------------|-------------------|
| Style:                | American Pale Ale |
| Code:                 | 10A               |
| OG:                   | 1.045-1.060       |
| FG:                   | 1.010-1.015       |
| IBU:                  | 30.0-45.0         |
| SRM:                  | 5.0-14.0          |
| ABV:                  | 4.5-6.0%          |
| CO2:                  | 2.2-2.7           |

| Inventory     |  |
|---------------|--|
| Bottles:      |  |
| Gallons:      |  |
| Date Checked: |  |

| Efficiency      |     |
|-----------------|-----|
| Brewhouse:      | 70% |
| Batch Size:     | 67% |
| Into Boiler:    | 84% |
| Into Fermenter: | 71% |

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

| Yeast Amounts                |     |
|------------------------------|-----|
| Cell Count (billions):       | 175 |
| Vials (White Labs/Wyeast):   | 1.5 |
| Dry Yeast (g):               | 9   |
| Starter Volume (mL):         | 0   |
| DME Required (oz)            |     |
| Vials Required (w/ Starter): |     |

| ON BREW DAY   |  |
|---|--|
| Heat 3.09 gallons of strike water to 169F                       |  |
| Add grain and mash at 152F for 60 minutes                       |  |
| Mash-out with 1.79 gallons at 210F, mix and hold for 10 minutes |  |
| Vorlauf and collect first runnings (approx. 3.39 gallons)       |  |
| Add 5.41 gallons at 179F to lautur tun and sparge               |  |
| Vorlauf and collect second runnings (approx. 5.41 gallons)      |  |
| Boil for a total of 90 minutes with the following hop schedule: |  |
| 1.08 oz Spalt (GR) @60 minute(s)                                |  |
| 1.08 oz Spalt (GR) @24 minute(s)                                |  |
| 1.08 oz Spalt (GR) @16 minute(s)                                |  |
| 1.08 oz Spalt (GR) @5 minute(s)                                 |  |

| Summary                                   |  |
|---|--|
| Noble Doormat (Spalt)                     |  |
| Batch Size: 5.50 gal (8.80 gal preboil)   |  |
| Estimated OG: 1.045 SG (actual: 1.043 SG) |  |
| Estimated FG: 1.009 SG (actual: 1.013 SG) |  |
| Estimated IBUs: 35 (Finseth; actual: 33)  |  |
| Estimated Color: 6 SRM (actual: 5 SRM)    |  |
| Brewhouse Efficiency: 70% (actual: 67%)   |  |
| Boil Time: 90 minutes                     |  |

| Grain                | Pounds | Potential | SG Share | Color | % Bill |
|----------------------|--------|-----------|----------|-------|--------|
| Pale Malt (2-Row) US | 7.25   | 1.036     | 0.033    | 2.0   | 73.42% |
| Vienna Malt          | 2.13   | 1.036     | 0.010    | 3.5   | 21.52% |
| British carastan     | 0.50   | 1.035     | 0.002    | 34.0  | 5.06%  |

| Brewing                       |       |  |
|-------------------------------|-------|--|
| Batch Size (gal):             | 5.50  | Estimated First Runnings (gal): 3.39   |
| Total Grain Weight (lbs):     | 9.88  | Desired Sparge Temperature (F): 170    |
| Grain Temperature (F):        | 70    | Sparge Water (gal): 5.41               |
| Mash Ratio (qts/lb):          | 1.25  | Sparge Water Temperature (F): 179      |
| Mash/Lauter Deadspace (gal):  | 0.25  | Estimated Preboil Volume (gal): 8.80   |
| Total Water Needed (gal):     | 10.28 | Boil Time (min): 90                    |
| Desired Mash Temperature (F): | 152   | Evaporation Rate (gal/hr): 1.70        |
| Strike Water (gal):           | 3.09  | Estimated Evaporation Loss (gal): 2.55 |
| Strike Temperature (F):       | 169   | Trub Loss (gal): 0.75                  |
| Grain Absorption (gal):       | 1.23  | Volume Left in Kettle (gal): 0.00      |
| Mash-out Temperature (F):     | 150   | Actual Evaporation Rate (gal/hr): 1.6  |
| Mash-out Water (gal):         | 1.79  | Actual Evaporation Loss (gal): 2.40    |

| Hop        | Alpha % | Ounces | Boil Time | IBU  | % Bill |
|------------|---------|--------|-----------|------|--------|
| Spalt (GR) | 4.1%    | 1.08   | 60        | 14.5 | 25.00% |
| Spalt (GR) | 4.1%    | 1.08   | 24        | 9.9  | 25.00% |
| Spalt (GR) | 4.1%    | 1.08   | 16        | 7.6  | 25.00% |
| Spalt (GR) | 4.1%    | 1.08   | 5         | 2.9  | 25.00% |

| Gravity               |       | Collections            |       |
|-----------------------|-------|------------------------|-------|
| Potential OG:         | 1.065 | First Runnings (gal):  | 4.50  |
| OG:                   | 1.043 | SG of First Runnings:  | 1.052 |
| OG Temperature (F):   | 60    | SG Temperature (F):    | 60    |
| Corrected OG:         | 1.043 | Corrected SG:          | 1.052 |
| SG at Racking:        |       | Second Runnings (gal): | 4.50  |
| SG Temperature (F):   |       | SG of Second Runnings: | 1.020 |
| Corrected SG:         |       | SG Temperature (F):    | 60    |
| FG:                   | 1.013 | Corrected SG:          | 1.020 |
| FG Temperature (F):   | 59    | Estimated Preboil SG:  | 1.036 |
| Corrected FG:         | 1.013 | Preboil Volume (gal):  | 9.00  |
| Potential ABV (%):    | 5.9%  | SG of Preboil Volume:  | 1.033 |
| Actual ABV (%):       | 3.9%  | SG Temperature (F):    | 60    |
| IBU to Gravity Ratio: | 0.77  | Corrected SG:          | 1.033 |

| Diacetyl Rest                         |        | Carbonation               |      |
|---------------------------------------|--------|---------------------------|------|
| Target Fermentation Completion:       |        | CO2 Volume:               | 2.45 |
| Target SG for Diacetyl Rest:          |        | Bottling Temperature (F): |      |
|                                       |        | Priming Sugar (oz):       |      |
|                                       |        | DME (oz):                 |      |
|                                       |        | Forced Carbonation (lbs): |      |
| Fermentation                          |        |                           |      |
| CO2 Released During Fermentation (g): | 657.79 |                           |      |

| Notes   |  |
|---|--|
| Experiment to see how noble hops change the beer (1 <sup>st</sup> of 5 brews).<br>Equal additions for a total of ~35 IBUs.<br>Pitch the yeast dry (no hydration).<br>37: for more even collections, mashout was 2.65 and sparge was 4.54.<br>Mashout steeped for 10 mins and sparge steeped for 20 mins.<br>1.043 SG at 30 mins left in boil; so little more from rest of boil and cooling this time.<br>44: crash cool |  |

| User Variables                   |       |
|----------------------------------|-------|
| 12 oz. Bottles Required:         | 51    |
| Primary Fermentation Temp. (F):  | 66    |
| Secondary Fermentation Temp (F): | 71    |
| FNH/IBU Factor (%):              | 10%   |
| Strike Temperature Factor (F):   | 4     |
| Sparge Temperature Factor (F):   | 3     |
| Mash Time (min):                 | 60    |
| Specific Gravity (Brix):         | 11.2  |
| Specific Gravity (SG):           | 1.043 |

| Yeast:   |  |
|--|--|
| Danstar Nottingham (Dry Ale)                               |  |
| Mash/Sparge Schedule:                                      |  |
| Single Infusion, 152F; Batch Sparge                        |  |
| Mash for 60 min at 152F w/ 3.09 gal of water at 169F       |  |
| Mashout w/ 1.79 gal of water at 210F; hold for 10 min      |  |
| Batch sparge w/ 5.41 gal of water at 179F; hold for 10 min |  |
| Fermentation Schedule:                                     |  |
| Primary Fermentation: 33 days @66F                         |  |
| Secondary Fermentation: 0 days @71F                        |  |