

## Batch #39 - 17 Sep 2023

## Wet Hops Blonde Ale (Willamette) v2 - 4.1%

## Blonde Ale

Brewer: The Thirsty Otter

Type: All Grain

IBU : 23 (Tinseth)  
 BU/GU : 0.57  
 Colour : 10 EBC  
 Carbonation : 2.4 CO2-vol

Pre-Boil Gravity : 1.035  
 Original Gravity : 1.041  
 Final Gravity : 1.010

## Fermentables (1 kg)

750 g - Pale Ale Malt 10 EBC (75%)  
 ^ Lot # 20220628  
 ^ Brouwmaatje (NL) BM-BL.051.613.25/1  
 200 g - Pils 3.5 EBC (20%)  
 ^ Lot # 20210710  
 ^ Brouwmaatje (NL) 051.002.4  
 50 g - Wheat Malt 5.5 EBC (5%)  
 ^ Lot # 20210909  
 ^ Brouwmaatje (NL)

## Hops (172 g)

20 min - 29 g - Willamette (green hops) (Whol...  
 ^ Home grown by The Thirsty Otter  
 10 min - 48 g - Willamette (green hops) (Whol...  
 ^ Home grown by The Thirsty Otter

## Hop Stand

15 min hopstand @ 80 °C  
 15 min - 95 g - Willamette (green hops) (Whol...  
 ^ Home grown by The Thirsty Otter

## Miscellaneous

Mash - 0.28 g - Baking Soda (NaHCO3)  
 ^ Lot # 41190621/3  
 ^ Brouwstore (NL) 003.106.2  
 Mash - 0.76 g - Calcium Chloride (CaCl2) 33 %...  
 ^ Lot # 115038  
 ^ Brouwstore (NL) 055.035.0  
 Mash - 0.77 g - Canning Salt (NaCl)  
 ^ Albert Heijn (NL)  
 Mash - 1.16 g - Epsom Salt (MgSO4)  
 ^ Lot # /2119000091  
 ^ Brouwstore (NL) 055.027.7  
 Mash - 1.53 g - Gypsum (CaSO4)  
 ^ Brouwmaatje (NL)  
 Mash - 0.4 ml - Lactic Acid 80% 80%  
 ^ Lot # 20200213  
 ^ Brouwstore (NL) 003.002.3  
 Mash - 5.84 l - NL Spa Reine Flat Mineral Water  
 ^ AH (NL)  
 Mash - 3 l - NL Spa Reine Flat Mineral Water  
 ^ AH (NL)  
 30 min - Boil - 0.37 g - Lipohop K  
 ^ Lot # LPK110  
 ^ The Malt Miller (UK) CH-03-013  
 10 min - Boil - 1 g - Irish Moss  
 ^ Lot # 4348  
 ^ Brouwstore (NL) 125.249.1  
 Bottling - 10 items - 30 cl BNR-CBK bottle (2...  
 ^ Bruin Nederlands Retour - Centraal Brouweri...

## 01 Brouwpunt 5L (60min) (rev 4)

Batch Size : 5.6 L  
 Boil Size : 6.86 L  
 Post-Boil Vol : 5.96 L

Mash Water : 3 L  
 Sparge Water : 4.94 L  
 Boil Time : 30 min  
 Total Water : 7.94 L



10 EBC

Brewhouse Efficiency: 71.8%  
 Mash Efficiency: 73.3%

## Mash Profile

01 One Step Mash (60 min)  
 71 °C - Strike Temp  
 65 °C - 60 min - Temperature

## Fermentation Profile

01 Ale + DR + Conditioning  
 18 °C - 10 days - Primary  
 21 °C - 4 days - Diacetyl rest  
 18 °C - 14 days - Carbonation  
 18 °C - 28 days - Conditioning

## Water Profile

02 NL Spa Reine Flat Mineral Water (www.ah.nl...  
 Ca 60 Mg 17 Na 51 Cl 83 SO 167 HCO 43

SO/Cl ratio: 2  
 Mash pH: 5.36  
 Sparge pH: 6

## Measurements

Mash pH: 5.31  
 Boil Volume: 6  
 Pre-Boil Gravity: 1.036  
 Post-Boil Kettle Volume: 5.2  
 Original Gravity: 1.041  
 Fermenter Top-Up:  
 Fermenter Volume: 4.5  
 Final Gravity: 1.006  
 Bottling Volume: 3.3

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## Recipe Notes

Pitch 3 grams yeast @ 18 C.

## Batch Notes

### Brew day

17-09-2023 11:15 Milled the malt @ 1.14 mm gap (0.045").  
0.28 gram Baking soda  
0.77 grams Canning salt  
1.16 gram Epsom salt  
1.53 gram Gypsum  
0.76 gram Calcium chloride  
0.4 ml Lactic acid  
11:46 pH = 5.57@21.5 C  
11:55 strike temp = 70.5 C.  
11:55 started mash timer  
12:00 pH = 5.33@38.8 C  
12:05 pH = 5.31@43.3 C  
12:10 pH = 5.32@40.8 C.  
12:15 pH = 5.34@40.2 C.  
12:20 pH = 5.32@37.8 C.  
12:25 pH = 5.33@41.4 C.  
12:30 pH = 5.34@40.5 C.  
12:35 pH = 5.32@41.1 C.  
12:40 pH = 5.33@37.9 C.  
12:45 pH = 5.34@38.3 C.  
12:50 pH = 5.33@38.7 C.  
12:55 pH = 5.34@30.0 C  
13:00 level = 43 mm --> 2.15 L first runnings.  
13:00 SG = 1.067 @ 43.5 C --> SG = 1.075 @ 20 C.  
13:10 added 1.5 L sparge water @72.2 C.  
13:13 added 1.5 L sparge water @71.9 C.  
13:30 level = 108 mm --> 5.4 L.  
13:35 SG = 1.030 @ 47.3 C --> SG = 1.039 @ 20 C.  
13:36 added 0.6 L sparge water @ 72.5 C.  
13:45 level = 120 mm --> 6.0 L.  
13:47 SG = 1.027 @ 46.5 C --> SG = 1.036 @ 20 C.  
13:49 pH = 5.31@47.6 C.  
14:30 added 0.37 grams Lipohop K.  
14:43 started the boil tracker.  
14:53 added 29 grams Willamette hop cones.  
15:03 added 48 grams Willamette hop cones.  
15:13 Flame out.  
15:35 added 95 grams Willamette hop cones @ 90.5 C.  
15:35 Did not start the hop stand tracker, cool the wort overnight.

### Day 0 in fermentation

18-09-2023 20:18 Pitched 3 grams of yeast @ 19.5 C.

### Day 1 in fermentation

19-09-2023 07:15 18.0 C, dp = 50 mm H2O, one bubble.  
19-09-2023 20:00 18.1 C, dp = 50 mm H2O, many bubbles,  
19-09-2023 23:00 18.5 C, dp = 50 mm H2O, many bubbles.

### Day 2 in fermentation

20-09-2023 00:00 18.6 C, dp = 50 mm H2O, many bubbles.  
20-09-2023 06:30 18.9 C, dp = 50 mm H2O, many bubbles.  
20-09-2023 20:30 18.6 C, dp = 50 mm H2O, many bubbles.  
20-09-2023 22:30 18.9 C, dp = 50 mm H2O, many bubbles.

### Day 3 in fermentation

21-09-2023 07:15 18.0 C, dp = 50 mm H2O, three bubbles.  
21-09-2023 18:30 17.9 C, dp = 50 mm H2O, one bubble.  
21-09-2023 21:00 17.9 C, dp = 50 mm H2O, many bubbles.

### Day 4 in fermentation

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## Batch Notes

22-09-2023 07:45 17.0 C, dp = 50 mm H2O, one bubble.  
 22-09-2023 19:30 16.6 C, dp = 50 mm H2O, one bubble.  
 22-09-2023 21:30 16.6 C, dp = 48 mm H2O, no bubbles.

### Day 5 in fermentation

23-09-2023 06:30 15.7 C, dp = 48 mm H2O, no bubbles.  
 23-09-2023 20:45 17.8 C, dp = 48 mm H2O, no bubbles.

### Day 6 in fermentation

24-09-2023 06:30 17.2 C, dp = 45 mm H2O, no bubbles.  
 24-09-2023 15:00 17.9 C, dp = 48 mm H2O, no bubbles.  
 24-09-2023 21:00 17.5 C, dp = 45 mm H2O, no bubbles.  
 24-09-2023 23:30 17.3 C, dp = 45 mm H2O, no bubbles.

### Day 7 in fermentation

25-09-2023 08:00 17.3 C, dp = 40 mm H2O, no bubbles.  
 25-09-2023 19:30 17.3 C, dp = 40 mm H2O, no bubbles.  
 25-09-2023 23:45 17.3 C, dp = 40 mm H2O, no bubbles.

### Day 8 in fermentation

26-09-2023 08:00 17.7 C, dp = 40 mm H2O, no bubbles.  
 26-09-2023 19:00 18.1 C, dp = 40 mm H2O, no bubbles.  
 26-09-2023 22:00 18.1 C, dp = 40 mm H2O, no bubbles.

### Day 9 in fermentation

27-09-2023 07:00 17.6 C, dp = 30 mm H2O, no bubbles.  
 27-09-2023 18:15 17.9 C, dp = 40 mm H2O, no bubbles.

### Day 10 in fermentation

28-09-2023 07:00 17.9 C, dp = 35 mm H2O, no bubbles.  
 28-09-2023 17:00 17.7 C, dp = 30 mm H2O, no bubbles.

### Day 11 in fermentation

29-09-2023 08:00 20.0 C, dp = 35 mm H2O, no bubbles.  
 29-09-2023 17:00 19.7 C, dp = 30 mm H2O, no bubbles.  
 29-09-2023 20:15 19.9 C, dp = 35 mm H2O, no bubbles.

### Day 12 in fermentation

30-09-2023 09:30 19.9 C, dp = 30 mm H2O, no bubbles.  
 30-09-2023 14:00 19.9 C, dp = 30 mm H2O, no bubbles.  
 30-09-2023 16:45 20.5 C, dp = 35 mm H2O, no bubbles.  
 30-09-2023 20:00 20.1 C, dp = 30 mm H2O, no bubbles.

### Day 13 in fermentation

01-10-2023 08:00 19.9 C, dp = 30 mm H2O, no bubbles.  
 01-10-2023 12:30 20.3 C, dp = 30 mm H2O, no bubbles.  
 01-10-2023 16:00 20.1 C, dp = 30 mm H2O, no bubbles.  
 01-10-2023 21:00 20.2 C, dp = 30 mm H2O, no bubbles.

### Day 14 in fermentation

02-10-2023 07:30 20.4 C, dp = 35 mm H2O, no bubbles.  
 02-10-2023 17:00 20.3 C, dp = 30 mm H2O, no bubbles.

### Bottling day

02-10-2023 20:39 filled 10 BNR and 1 Vichy bottles (30 cl).  
 02-10-2023 20:39 19.8 C, dp = 0 mm H2O, SG = 1.006, pH = 4.44.

### Day 1 in conditioning

03-10-2023 08:00 20.6 C.  
 03-10-2023 12:00 19.9 C.  
 03-10-2023 16:00 20.3 C.  
 03-10-2023 20:00 20.0 C,

### Day 2 in conditioning

04-10-2023 07:00 20.6 C.  
 04-10-2023 12:00 20.4 C.

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04-10-2023 16:00 19.9 C.  
04-10-2023 20:00 20.5 C.

### Day 3 in conditioning

05-10-2023 00:00 18.1 C.  
05-10-2023 04:00 17.9 C.  
05-10-2023 08:00 17.1 C.  
05-10-2023 12:00 18.1 C.  
05-10-2023 16:00 17.7 C.  
05-10-2023 20:00 17.6 C.

### Day 4 in conditioning

06-10-2023 00:00 17.3 C.  
06-10-2023 04:00 18.0 C.  
06-10-2023 08:00 17.7 C.  
06-10-2023 12:00 17.4 C.  
06-10-2023 16:00 18.2 C.  
06-10-2023 20:00 18.2 C.

### Day 5 in conditioning

07-10-2023 00:00 17.9 C.  
07-10-2023 04:00 17.5 C.  
07-10-2023 08:00 17.3 C.  
07-10-2023 12:00 17.2 C.  
07-10-2023 16:00 17.2 C.  
07-10-2023 20:00 17.4 C.

### Day 6 in conditioning

08-10-2023 00:00 17.4 C.  
08-10-2023 04:00 17.5 C.  
08-10-2023 08:00 17.5 C.  
08-10-2023 12:00 17.4 C.  
08-10-2023 16:00 17.4 C.  
08-10-2023 20:00 17.4 C.

### Day 7 in conditioning

09-10-2023 00:00 17.3 C.  
09-10-2023 04:00 17.8 C.  
09-10-2023 08:00 18.1 C.  
09-10-2023 12:00 17.6 C.  
09-10-2023 16:00 17.6 C.  
09-10-2023 20:00 17.6 C.

### Day 8 in conditioning

10-10-2023 00:00 17.6 C.  
10-10-2023 04:00 17.6 C.  
10-10-2023 08:00 17.3 C.  
10-10-2023 12:00 17.1 C.  
10-10-2023 16:00 17.1 C.  
10-10-2023 20:00 17.4 C.

### Day 9 in conditioning

11-10-2023 00:00 17.5 C.  
11-10-2023 04:00 17.5 C.  
11-10-2023 08:00 17.5 C.  
11-10-2023 12:00 17.4 C.  
11-10-2023 16:00 17.4 C.  
11-10-2023 20:00 17.4 C.

### Day 10 in conditioning

12-10-2023 00:00 17.5 C.  
12-10-2023 04:00 17.5 C.  
12-10-2023 08:00 17.5 C.  
12-10-2023 12:00 17.1 C.  
12-10-2023 16:00 18.1 C.  
12-10-2023 20:00 17.7 C.

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### Day 11 in conditioning

13-10-2023 00:00 17.3 C.  
13-10-2023 04:00 17.1 C.  
13-10-2023 08:00 18.1 C.  
13-10-2023 13:00 17.9 C.  
13-10-2023 16:00 17.8 C.  
13-10-2023 19:45 17.7 C.

### Day 12 in conditioning

14-10-2023 05:30 17.2 C.  
14-10-2023 08:00 17.9 C.  
14-10-2023 12:00 17.6 C.  
14-10-2023 16:00 17.5 C.  
14-10-2023 20:00 17.8 C.

### Day 13 in conditioning

15-10-2023 00:00 18.0 C.  
15-10-2023 04:00 17.0 C.  
15-10-2023 08:00 17.2 C.  
15-10-2023 12:00 17.7 C.  
15-10-2023 16:00 18.0 C.  
15-10-2023 20:00 17.7 C.

### Day 14 in conditioning

16-10-2023 00:00 16.9 C.  
16-10-2023 04:00 17.3 C.  
16-10-2023 08:00 17.9 C.  
16-10-2023 12:00 18.0 C.  
16-10-2023 16:00 17.8 C.  
16-10-2023 20:00 17.1 C.

### Day 15 in conditioning

17-10-2023 00:00 17.6 C.  
17-10-2023 04:00 18.0 C.  
17-10-2023 08:00 17.9 C.  
17-10-2023 12:00 17.3 C.  
17-10-2023 16:00 17.2 C.  
17-10-2023 20:00 17.8 C.

### Day 16 in conditioning

18-10-2023 00:00 18.1 C.  
18-10-2023 04:00 17.6 C.  
18-10-2023 08:00 17.1 C.  
18-10-2023 12:00 17.0 C.  
18-10-2023 16:00 17.4 C.  
18-10-2023 20:00 18.0 C.

### Day 17 in conditioning

19-10-2023 00:00 18.0 C.  
19-10-2023 04:00 17.1 C.  
19-10-2023 08:00 17.2 C.  
19-10-2023 12:00 18.0 C.  
19-10-2023 16:00 17.8 C.  
19-10-2023 20:00 17.6 C.

### Day 18 in conditioning

20-10-2023 00:00 18.0 C.  
20-10-2023 04:00 17.3 C.  
20-10-2023 08:00 18.1 C.  
20-10-2023 12:00 17.0 C.  
20-10-2023 16:00 17.1 C.  
20-10-2023 20:30 17.4 C.

### Day 19 in conditioning

21-10-2023 00:00 18.0 C.

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## Batch Notes

21-10-2023 04:00 17.1 C.  
21-10-2023 08:00 17.3 C.  
21-10-2023 12:00 18.0 C.  
21-10-2023 16:00 17.7 C.  
21-10-2023 20:00 17.5 C.

### Day 20 in conditioning

22-10-2023 00:00 18.1 C.  
22-10-2023 04:00 17.4 C.  
22-10-2023 08:00 17.3 C.  
22-10-2023 12:00 18.1 C.  
22-10-2023 16:00 17.6 C.  
22-10-2023 20:00 17.5 C.

### Day 21 in conditioning

23-10-2023 00:00 18.1 C.  
23-10-2023 04:00 17.5 C.  
23-10-2023 08:00 17.0 C.  
23-10-2023 12:00 17.0 C.  
23-10-2023 16:00 17.7 C.  
23-10-2023 20:00 18.0 C.

### Day 22 in conditioning

24-10-2023 00:00 17.3 C.  
24-10-2023 04:00 17.1 C.  
24-10-2023 08:00 17.8 C.  
24-10-2023 12:00 18.0 C.  
24-10-2023 16:00 17.3 C.  
24-10-2023 20:00 17.3 C.

### Day 23 in conditioning

25-10-2023 00:00 18.0 C.  
25-10-2023 04:00 18.0 C.  
25-10-2023 08:00 17.2 C.  
25-10-2023 12:00 17.0 C.  
25-10-2023 16:00 17.7 C.  
25-10-2023 20:00 18.1 C.

### Day 24 in conditioning

26-10-2023 00:00 18.0 C.  
26-10-2023 04:00 17.3 C.  
26-10-2023 08:00 17.0 C.  
26-10-2023 12:00 17.4 C.  
26-10-2023 16:00 18.0 C.  
26-10-2023 20:00 18.0 C.

### Day 25 in conditioning

27-10-2023 00:00 17.2 C.  
27-10-2023 04:00 17.0 C.  
27-10-2023 08:00 17.7 C.  
27-10-2023 12:00 18.1 C.  
27-10-2023 16:00 18.0 C.  
27-10-2023 20:00 17.0 C.

### Day 26 in conditioning

28-10-2023 00:00 17.1 C.  
28-10-2023 04:00 17.9 C.  
28-10-2023 08:00 18.1 C.  
28-10-2023 12:00 17.5 C.  
28-10-2023 16:00 17.0 C.  
28-10-2023 20:00 17.5 C.

### Day 27 in conditioning

29-10-2023 00:00 18.0 C.  
29-10-2023 04:00 18.1 C.  
29-10-2023 08:00 17.4 C.

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## Batch Notes

29-10-2023 12:00 17.0 C.  
29-10-2023 16:00 17.8 C.  
29-10-2023 20:00 18.0 C.

### Day 28 in conditioning

30-10-2023 00:00 17.3 C.  
30-10-2023 04:00 17.0 C.  
30-10-2023 08:00 17.7 C.  
30-10-2023 12:00 17.9 C.  
30-10-2023 16:00 18.0 C.  
30-10-2023 20:00 17.0 C.

### Day 29 in conditioning

31-10-2023 00:00 17.2 C.  
31-10-2023 04:00 17.7 C.  
31-10-2023 08:00 18.0 C.  
31-10-2023 12:00 17.7 C.  
31-10-2023 16:00 17.1 C.  
31-10-2023 20:00 17.8 C.

### Day 30 in conditioning

01-11-2023 00:00 18.1 C.  
01-11-2023 04:00 17.2 C.  
01-11-2023 08:00 17.0 C.  
01-11-2023 12:00 17.6 C.  
01-11-2023 16:00 18.0 C.  
01-11-2023 20:00 17.3 C.

### Day 31 in conditioning

02-11-2023 00:00 17.2 C.  
02-11-2023 04:00 17.8 C.  
02-11-2023 08:00 18.0 C.  
02-11-2023 12:00 17.6 C.  
02-11-2023 16:00 17.0 C.  
02-11-2023 20:00 17.1 C.

### Day 32 in conditioning

03-11-2023 00:00 17.7 C.  
03-11-2023 04:00 18.0 C.  
03-11-2023 08:00 18.0 C.  
03-11-2023 12:00 17.5 C.  
03-11-2023 16:00 17.0 C.  
03-11-2023 20:00 17.2 C.

### Day 33 in conditioning

04-11-2023 00:00 17.8 C.  
04-11-2023 04:00 18.0 C.  
04-11-2023 08:00 17.7 C.  
04-11-2023 12:00 17.2 C.  
04-11-2023 16:00 17.0 C.  
04-11-2023 20:00 17.2 C.

### Day 34 in conditioning

05-11-2023 00:00 17.8 C.  
05-11-2023 04:00 18.0 C.  
05-11-2023 08:00 17.8 C.  
05-11-2023 12:00 17.3 C.  
05-11-2023 16:00 17.0 C.  
05-11-2023 20:00 17.5 C.

### Day 35 in conditioning

06-11-2023 00:00 18.0 C.  
06-11-2023 04:00 18.0 C.  
06-11-2023 08:00 17.2 C.  
06-11-2023 12:00 17.0 C.  
06-11-2023 16:00 17.4 C.

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## Batch Notes

06-11-2023 20:00 17.9 C.

Day 36 in conditioning

07-11-2023 00:00 18.0 C.

07-11-2023 04:00 17.8 C.

07-11-2023 08:00 17.2 C.

07-11-2023 12:00 17.0 C.

07-11-2023 16:00 17.3 C.

07-11-2023 20:00 18.0 C.

Day 37 in conditioning

08-11-2023 00:00 18.0 C.

08-11-2023 04:00 17.7 C.

08-11-2023 08:00 17.1 C.

08-11-2023 12:00 16.9 C.

08-11-2023 16:00 17.3 C.

08-11-2023 20:00 17.9 C.

Day 38 in conditioning

09-11-2023 00:00 18.0 C.

09-11-2023 04:00 17.8 C.

09-11-2023 08:00 17.1 C.

09-11-2023 12:00 17.0 C.

09-11-2023 16:00 17.4 C.

09-11-2023 20:00 17.8 C.

Day 39 in conditioning

10-11-2023 00:00 18.0 C.

10-11-2023 04:00 17.8 C.

10-11-2023 08:00 17.2 C.

10-11-2023 12:00 17.0 C.

10-11-2023 16:00 17.1 C.

10-11-2023 20:00 17.6 C.

Day 40 in conditioning

11-11-2023 00:00 18.0 C.

11-11-2023 04:00 17.9 C.

11-11-2023 08:00 17.5 C.

11-11-2023 12:00 17.1 C.

11-11-2023 16:00 17.0 C.

11-11-2023 20:00 17.0 C.

Day 41 in conditioning

12-11-2023 00:00 17.6 C.

12-11-2023 04:00 18.0 C.

12-11-2023 08:00 17.8 C.

12-11-2023 12:00 17.5 C.

12-11-2023 16:00 17.0 C.

12-11-2023 20:00 17.0 C.

Day 42 in conditioning

13-11-2023 00:00 17.1 C.

13-11-2023 04:00 17.6 C.

13-11-2023 08:00 18.1 C.

13-11-2023 12:00 17.7 C.

13-11-2023 16:00 17.4 C.

13-11-2023 20:00 16.9 C.

## Extra Measured Values

Strike Water Temperature 70.5

Strike Water pH 5.57

Sparge Water Temperature 72



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Extra Measured Values	
Sparge Water pH	6
Pitch Temperature	19.5

Batch Log	
17 September 2023	Brew Date
17 September 2023 11:30	Status: Brewing
18 September 2023 20:18	Status: Fermenting
18 September 2023	Fermentation Start
28 September 2023 21:06	SV - 20.5 C.
2 October 2023	Bottling Date
2 October 2023 20:39	Filled 10 BNR and 1 Vichy bottles (30 cl).
4 October 2023 20:01	SV = 18.0 C.
13 November 2023 23:59	Status: Completed

Taste
3.3 / 5.0