

## Batch #23 - 18 Sep 2022

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## Wet Hops Blonde Ale (Willamette) - 4.3%

British Golden Ale  
Brewer: The Thirsty Otter

Type: All Grain

IBU : 20 (Tinseth)  
BU/GU : 0.47  
Colour : 9 EBC  
Carbonation : 2.4 CO2-vol

Pre-Boil Gravity : 1.031  
Original Gravity : 1.041  
Total Gravity : 1.043  
Final Gravity : 1.010

## Fermentables (1 kg)

750 g - Pale Ale Malt 8.5 EBC (75%)

^ Lot # 20210909

^ Brouwnaatje (NL) 051.011.5

200 g - Pils 3.5 EBC (20%)

^ Lot # 20210710

^ Brouwnaatje (NL) 051.002.4

50 g - Wheat Malt 5.5 EBC (5%)

^ Lot # 20210909

^ Brouwnaatje (NL)

32 g - Bottling - Sugar, Table (Sucrose) 2 EBC

^ Albert Heijn (NL)

## Hops (160 g)

20 min - 30 g - Willamette (green hops) (Whol...)

^ Home grown by The Thirsty Otter

10 min - 30 g - Willamette (green hops) (Whol...)

^ Home grown by The Thirsty Otter

## Hop Stand

15 min hopstand @ 80 °C

15 min - 100 g - Willamette (green hops) (Whol...)

^ Home grown by The Thirsty Otter

## Miscellaneous

Mash - 0.29 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 - 0.76 g - Canning Salt (NaCl)

^ Albert Heijn (NL)

Mash - 1.17 g - Epsom Salt (MgSO4)

^ Lot # /2119000091

^ Brouwstore (NL) 055.027.7

Mash - 1.5 g - Gypsum (CaSO4)

^ Brouwnaatje (NL)

Mash - 0.4 ml - Lactic Acid 80% 80%

^ Lot # 20200213

^ Brouwstore (NL) 003.002.3

Mash - 3 l - NL Spa Reine Flat Mineral Water

^ Lot # 20220901

^ AH (NL)

Sparge - 5.84 l - NL Spa Reine Flat Mineral W..

^ Lot # 20220901

^ AH (NL)

60 min - Boil - 0.15 g - LipoHop K

^ Lot # LPK110

^ The Malt Miller (UK) CH-03-013

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

Batch Size : 5.6 L

Boil Size : 7.76 L

Post-Boil Vol : 5.96 L

Mash Water : 3 L

Sparge Water : 5.84 L

Boil Time : 60 min

Total Water : 8.84 L

9 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 - 5 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 55 Mg 15 Na 46 Cl 75 SO 150 HCO 40

SO/Cl ratio: 2

Mash pH: 5.38

Sparge pH: 6

## Measurements

Mash pH: 5.37

Boil Volume: 8.3

Pre-Boil Gravity: 1.024

Post-Boil Kettle Volume: 6.9

Original Gravity: 1.032

Fermenter Top-Up:

Fermenter Volume: 5.5

Final Gravity: 1.000

Bottling Volume: 4.46

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## Recipe Notes

Pitch 3 grams yeast @ 18 C.

## Batch Notes

## Brew day

18-09-2022 09:45 Calibrated the pH-meter.

18-09-2022 09:52 Strike water pH = 6.42 @ 14.6 C.

0.79 gram Calcium chloride.

0.4 ml Lactic acid

1.18 gram Epsom salt.

0.74 gram Canning salt.

0.29 gram Baking soda.

Forgot the Gypsum!

10:15 Strike water pH = 5.71 @ 45.0 C.

10:19 Mash in.

@5 m pH = 5.43 @ 42.5 C.

@10 m pH = 5.40 @ 43.0 C.

@15 m pH = 5.40 @ 43.1 C.

@20 m pH = 5.37 @ 49.6 C.

@25 m pH = 5.35 @ 48.4 C.

@30 m pH = 5.37 @ 43.9 C.

@35 m pH = 5.36 @ 43.2 C.

@40 m pH = 5.37 @ 41.0 C.

@45 m pH = 5.32 @ 48.3 C.

@50 m pH = 5.35 @ 44.9 C.

@55 m pH = 5.35 @ 47.3 C.

@60 m pH = 5.39 @ 39.3 C.

11:35 1.5 L batch sparge #1 @ 72.0 C.

11:41 Sparge water pH = 6.23 @ 17.4 C.

11:53 1.5 L batch sparge #2 @ 72.0 C.

12:15 1.5 L batch sparge #3 @ 72.9 C.

13:20 1.5 L batch sparge #4 @ 72.5 C.

13:35 Level = 16.6 cm --&gt; 8.3 L wort.

13:37 SG = 1.020 @ 35.8 C. --&gt; SG = 1.024 @ 20 C.

13:39 pH = 5.62 @ 34.2 C.

13:47 Added 0.19 gram Lithopop K.

14:03 Hot break.

14:05 Start of boil.

14:54 Level = 14.5 cm --&gt; 7.25 L.

15:07 Start of hop stand @ 98.3 C.

15:22 End of hop stand @ 84.0 C.

20:30 SG = 1.032. pH = 5.46 @ 21.6 C.

20:35 Level = 13.8 cm --&gt; 6.9 L wort

20:41 5.5 L wort in the fermenter.

## Day 0 in fermentation

19-09-2022 08:35 Pitched 3 grams of Fermentis S-04 yeast.

19-09-2022 08:35 16.7 C., dp = 0 mm H2O, SG = 1.032, pH = 5.46.

19-09-2022 11:15 18.0 C., dp = 10 mm H2O, no bubbles.

19-09-2022 12:00 17.9 C., dp = 30 mm H2O, no bubbles.

19-09-2022 13:00 17.6 C., dp = 30 mm H2O, no bubbles.

19-09-2022 16:00 17.1 C., dp = 40 mm H2O, no bubbles.

19-09-2022 18:00 17.5 C., dp = 48 mm H2O, no bubbles.

19-09-2022 20:00 18.0 C., dp = 3 mm H2O, no bubbles.

19-09-2022 21:00 18.0 C., dp = 3 mm H2O, no bubbles.

19-09-2022 22:00 17.9 C., dp = 3 mm H2O, no bubbles.

## Day 1 in fermentation

20-09-2022 06:15 18.0 C.

20-09-2022 07:45 18.0 C., dp = 50 mm H2O, many bubbles.

20-09-2022 08:00 17.9 C.

20-09-2022 16:15 17.1 C.

20-09-2022 18:45 17.1 C., dp = 50 mm H2O, many bubbles.

20-09-2022 21:30 17.1 C., dp = 50 mm H2O, many bubbles.

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## Batch Notes

## Day 2 in fermentation

21-09-2022 02:45 17.1 C.  
 21-09-2022 05:30 17.1 C.  
 21-09-2022 08:00 17.0 C, dp = 50 mm H2O, many bubbles.  
 21-09-2022 12:00 18.0 C.  
 21-09-2022 16:00 18.0 C.  
 21-09-2022 20:00 17.8 C, dp = 50 mm H2O, many bubbles.  
 21-09-2022 22:00 17.7 C.

## Day 3 in fermentation

22-09-2022 05:45 17.7 C.  
 22-09-2022 07:15 17.3 C, dp = 50 mm H2O, two bubbles.  
 22-09-2022 14:00 17.0 C.  
 22-09-2022 18:00 17.9 C, dp = 50 mm H2O, two bubbles.  
 22-09-2022 21:45 17.5 C, dp = 50 mm H2O, two bubbles.

## Day 4 in fermentation

23-09-2022 04:15 17.8 C.  
 23-09-2022 08:15 17.1 C, dp = 50 mm H2O, two bubbles.  
 23-09-2022 10:00 18.0 C, dp = 50 mm H2O, one bubble.  
 23-09-2022 12:30 17.5 C, dp = 50 mm H2O, one bubble.  
 23-09-2022 17:00 18.1 C, dp = 50 mm H2O, one bubble.  
 23-09-2022 19:00 18.1 C, dp = 50 mm H2O, one bubble.  
 23-09-2022 22:30 17.6 C, dp = 50 mm H2O, one bubble.

## Day 5 in fermentation

24-09-2022 00:00 17.5 C.  
 24-09-2022 04:00 17.1 C.  
 24-09-2022 08:45 17.6 C, dp = 45 mm H2O, no bubbles.  
 24-09-2022 11:00 17.3 C, dp = 45 mm H2O, no bubbles.  
 24-09-2022 17:00 17.7 C, dp = 45 mm H2O, no bubbles.  
 24-09-2022 20:00 17.3 C, dp = 45 mm H2O, no bubbles.

## Day 6 in fermentation

25-09-2022 00:00 18.1 C.  
 25-09-2022 04:00 17.3 C.  
 25-09-2022 09:30 17.3 C, dp = 45 mm H2O, no bubbles.  
 25-09-2022 13:00 17.9 C, dp = 45 mm H2O, no bubbles.  
 25-09-2022 16:15 17.4 C, dp = 42 mm H2O, no bubbles.  
 25-09-2022 20:00 17.7 C.

## Day 7 in fermentation

26-09-2022 00:00 17.6 C.  
 26-09-2022 04:00 17.7 C.  
 26-09-2022 08:30 17.3 C, dp = 45 mm H2O, no bubbles.  
 26-09-2022 12:15 17.8 C, dp = 45 mm H2O, no bubbles.  
 26-09-2022 16:00 17.1 C, dp = 45 mm H2O, no bubbles.  
 26-09-2022 20:00 17.4 C, dp = 45 mm H2O, no bubbles.  
 26-09-2022 23:45 18.0 C.

## Day 8 in fermentation

27-09-2022 04:00 17.2 C.  
 27-09-2022 07:30 17.4 C, dp = 45 mm H2O, no bubbles.  
 27-09-2022 12:00 17.7 C.  
 27-09-2022 16:00 17.9 C.  
 27-09-2022 20:00 17.9 C, dp = 45 mm H2O, no bubbles.  
 27-09-2022 22:00 17.7 C, dp = 45 mm H2O, no bubbles.

## Day 9 in fermentation

28-09-2022 00:00 17.0 C.  
 28-09-2022 04:00 17.2 C.  
 28-09-2022 07:45 17.3 C, dp = 45 mm H2O, no bubbles.  
 28-09-2022 12:00 17.5 C.  
 28-09-2022 16:00 17.9 C.  
 28-09-2022 20:00 17.1 C, dp = 45 mm H2O, no bubbles.

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## Batch Notes

## Day 10 in fermentation

29-09-2022 00:00 17.3 C.  
 29-09-2022 04:00 17.3 C.  
 29-09-2022 07:45 17.5 C., dp = 1 mm H<sub>2</sub>O, no bubbles.  
 29-09-2022 12:00 17.4 C.  
 29-09-2022 16:00 17.8 C.  
 29-09-2022 19:45 17.1 C., dp = 2 mm H<sub>2</sub>O, no bubbles.  
 29-09-2022 22:00 20.0 C.

## Day 11 in fermentation

30-09-2022 00:00 20.8 C.  
 30-09-2022 04:00 20.8 C.  
 30-09-2022 07:15 21.0 C., dp = 45 mm H<sub>2</sub>O, no bubbles.  
 30-09-2022 12:00 20.3 C.  
 30-09-2022 16:00 20.4 C.  
 30-09-2022 17:15 20.1 C., dp = 20 mm H<sub>2</sub>O, no bubbles.  
 30-09-2022 20:00 20.6 C., dp = 45 mm H<sub>2</sub>O, no bubbles.

## Day 12 in fermentation

01-10-2022 00:00 20.8 C.  
 01-10-2022 04:00 20.9 C.  
 01-10-2022 09:15 20.4 C., dp = 45 mm H<sub>2</sub>O, no bubbles.  
 01-10-2022 11:45 21.0 C., dp = 45 mm H<sub>2</sub>O, no bubbles.  
 01-10-2022 16:00 21.0 C., dp = 1 mm H<sub>2</sub>O, no bubbles.  
 01-10-2022 20:00 20.1 C.  
 01-10-2022 22:45 20.7 C.

## Day 13 in fermentation

02-10-2022 00:15 20.0 C.  
 02-10-2022 04:00 20.2 C.  
 02-10-2022 08:00 20.3 C.  
 02-10-2022 10:30 20.9 C., dp = 1 mm H<sub>2</sub>O, no bubbles.  
 02-10-2022 12:15 20.3 C., dp = 2 mm H<sub>2</sub>O, no bubbles.  
 02-10-2022 16:00 20.5 C., dp = 40 mm H<sub>2</sub>O, no bubbles.  
 02-10-2022 20:00 20.9 C., dp = 2 mm H<sub>2</sub>O, no bubbles.

## Day 14 in fermentation

03-10-2022 08:45 21.0 C., dp = 45 mm H<sub>2</sub>O, no bubbles.  
 03-10-2022 12:45 20.9 C., dp = 30 mm H<sub>2</sub>O, no bubbles.  
 03-10-2022 16:00 20.7 C., dp = 40 mm H<sub>2</sub>O, no bubbles.

## Day 15 in fermentation

04-10-2022 07:30 20.8 C., dp = 1 mm H<sub>2</sub>O, no bubbles.  
 04-10-2022 18:15 20.1 C., dp = 1 mm H<sub>2</sub>O, no bubbles.  
 04-10-2022 20:00 21.1 C., dp = 1 mm H<sub>2</sub>O, no bubbles.

## Bottling day

04-10-2022 20:30 20.9 C., dp = 0 mm H<sub>2</sub>O, SG = 1.000, pH = 4.41.  
 Filled 14 Steiner bottles (33 cl).

## Day 1 in conditioning

05-10-2022 07:45 19.9 C.  
 05-10-2022 20:00 19.4 C.

## Day 2 in conditioning

06-10-2022 06:30 19.2 C.  
 06-10-2022 19:15 18.9 C.  
 06-10-2022 23:30 19.0 C.

## Day 3 in conditioning

07-10-2022 07:00 19.0 C.  
 07-10-2022 19:00 18.5 C.  
 07-10-2022 22:30 18.4 C.

## Day 4 in conditioning

08-10-2022 07:30 18.2 C.

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## Batch Notes

08-10-2022 22:30 18.1 C.

Day 5 in conditioning

09-10-2022 09:00 18.8 C.

09-10-2022 15:15 18.5 C.

09-10-2022 21:45 18.6 C.

Day 6 in conditioning

10-10-2022 08:00 18.5 C.

10-10-2022 11:30 18.4 C.

10-10-2022 22:45 18.2 C.

Day 7 in conditioning

11-10-2022 07:30 18.7 C.

11-10-2022 18:30 18.2 C.

11-10-2022 23:30 18.2 C.

Day 8 in conditioning

12-10-2022 07:30 18.9 C.

12-10-2022 18:30 18.4 C.

12-10-2022 22:30 18.4 C.

Day 9 in conditioning

13-10-2022 07:30 18.2 C.

13-10-2022 19:00 18.2 C.

13-10-2022 22:30 18.2 C.

Day 10 in conditioning

14-10-2022 07:30 18.8 C.

14-10-2022 12:30 18.8 C.

14-10-2022 17:00 18.7 C.

Day 11 in conditioning

15-10-2022 08:30 18.8 C.

15-10-2022 15:45 18.7 C.

15-10-2022 21:30 18.9 C.

Day 17 in conditioning

21-10-2022 20:00 18.1 C.

Day 18 in conditioning

22-10-2022 08:45 18.3 C.

22-10-2022 15:30 18.4 C.

Day 19 in conditioning

23-10-2022 00:15 18.7 C.

23-10-2022 11:30 18.1 C.

23-10-2022 23:30 18.0 C.

Day 20 in conditioning

24-10-2022 08:00 18.0 C.

24-10-2022 14:45 18.9 C.

24-10-2022 20:30 18.9 C.

Day 21 in conditioning

25-10-2022 07:15 18.7 C.

25-10-2022 17:30 18.4 C.

25-10-2022 23:30 18.5 C.

Day 22 in conditioning

26-10-2022 07:00 18.5 C.

26-10-2022 16:45 18.4 C.

26-10-2022 23:30 18.5 C.

Day 23 in conditioning

27-10-2022 07:45 18.7 C.

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## Batch Notes

27-10-2022 16:30 18.8 C.  
27-10-2022 21:45 18.2 C.

Day 24 in conditioning  
28-10-2022 05:30 18.4 C.

Day 26 in conditioning  
30-10-2022 18:00 18.0 C.  
30-10-2022 21:00 18.0 C.

Day 27 in conditioning  
31-10-2022 08:00 18.0 C.  
31-10-2022 13:30 18.8 C.  
31-10-2022 22:30 18.7 C.

Day 28 in conditioning  
01-11-2022 07:00 18.5 C.  
01-11-2022 15:00 18.8 C.  
01-11-2022 20:30 18.7 C.

Day 29 in conditioning  
02-11-2022 08:00 18.0 C.  
02-11-2022 18:00 18.6 C.  
02-11-2022 22:00 18.7 C.

Day 30 in conditioning  
03-11-2022 07:15 18.4 C.  
03-11-2022 13:00 18.0 C.  
03-11-2022 21:30 18.1 C.

Day 31 in conditioning  
04-11-2022 08:00 18.8 C.  
04-11-2022 13:00 18.6 C.  
04-11-2022 15:00 18.5 C.  
04-11-2022 21:00 18.4 C.

Day 32 in conditioning  
05-11-2022 11:00 17.5 C.  
05-11-2022 16:30 17.5 C.  
05-11-2022 22:30 17.7 C.

Day 33 in conditioning  
06-11-2022 08:00 17.2 C.  
06-11-2022 18:45 17.8 C.  
06-11-2022 22:00 17.5 C.

Day 34 in conditioning  
07-11-2022 07:45 17.0 C.  
07-11-2022 18:00 17.7 C.  
07-11-2022 22:00 17.7 C.

Day 35 in conditioning  
08-11-2022 07:45 17.1 C.  
08-11-2022 12:30 17.7 C.  
08-11-2022 16:00 17.7 C.  
08-11-2022 20:45 17.8 C.

Day 36 in conditioning  
09-11-2022 19:30 17.4 C.

Day 37 in conditioning  
10-11-2022 00:00 17.5 C.  
10-11-2022 08:00 17.4 C.  
10-11-2022 19:00 17.2 C.  
10-11-2022 22:30 17.2 C.

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Day 38 in conditioning  
11-11-2022 07:00 17.9 C.  
11-11-2022 14:00 17.7 C.  
11-11-2022 18:00 17.9 C.

Day 39 in conditioning  
12-11-2022 09:30 17.9 C.  
12-11-2022 15:00 17.7 C.  
12-11-2022 21:00 17.8 C.

Day 40 in conditioning  
13-11-2022 08:00 17.5 C.  
13-11-2022 18:00 17.1 C.  
13-11-2022 22:30 17.1 C.

Day 41 in conditioning  
14-11-2022 08:00 17.5 C.  
14-11-2022 13:00 17.1 C.  
14-11-2022 16:45 17.0 C.

Day 42 in conditioning  
15-11-2022 07:00 17.0 C.  
15-11-2022 18:00 17.2 C.  
15-11-2022 22:30 17.4 C.

## Extra Measured Values

Strike Water Temperature	71.5
Strike Water pH	5.71
Sparge Water Temperature	72
Sparge Water pH	6.23
Pitch Temperature	16.7

## Batch Log

18 September 2022	Brew Date
18 September 2022 10:12	Status: Brewing
19 September 2022 08:30	SV = 18.0 C.
19 September 2022	Fermentation Start
29 September 2022 20:30	SV = 21.0 C.
4 October 2022	Bottling Date
4 October 2022 20:30	Filled 14 Steine bottles (33 cl).
15 November 2022 22:40	Status: Completed

## Taste

3.0 / 5.0