

## Batch #14 - 8 Aug 2021

## SMaSH Sabro - 6.6%

## Specialty IPA

Brewer: The Thirsty Otter

Type: All Grain

IBU : 63 (Tinseth)  
 BU/GU : 1  
 Colour : 9 EBC  
 Carbonation : 2.6 CO2-vol

Pre-Boil Gravity : 1.047  
 Original Gravity : 1.061  
 Total Gravity : 1.063  
 Final Gravity : 1.013

## Fermentables (1.5 kg)

1.5 kg - Golden Promise Pale Ale Malt 5 EBC (...  
 ^ Lot # 694-201130-111430-176081-1/1  
 ^ The Malt Miller (UK) MAL-00-034  
 30 g - Bottling - Sugar, Table (Sucrose) 2 EBC  
 ^ Albert Heijn (NL)

## Hops (44.4 g)

15 min - 6.4 g - Sabro (T90) - 14.8% (23 IBU)  
 ^ Lot # 694-201130-111430-176081-HOP-05-024-R...  
 ^ The Malt Miller (UK) HOP-05-024  
 10 min - 6.4 g - Sabro (T90) - 14.8% (18 IBU)  
 ^ Lot # 694-201130-111430-176081-HOP-05-024-R...  
 ^ The Malt Miller (UK) HOP-05-024  
 5 min - 6.4 g - Sabro (T90) - 14.8% (12 IBU)  
 ^ Lot # 694-201130-111430-176081-HOP-05-024-R...  
 ^ The Malt Miller (UK) HOP-05-024

## Hop Stand

20 min hopstand @ 80 °C  
 20 min 80 °C - 12.6 g - Sabro (T90) - 14.8% (...  
 ^ Lot # 694-201130-111430-176081-HOP-05-024-R...  
 ^ The Malt Miller (UK) HOP-05-024

## Dry Hops

7 days - 12.6 g - Sabro (T90) - 14.8%  
 ^ Lot # 694-201130-111430-176081-HOP-05-024-R...  
 ^ The Malt Miller (UK) HOP-05-024

## Miscellaneous

Mash - 5.83 g - Calcium Chloride (CaCl2) 33 %...  
 ^ Lot # 115038  
 ^ Brouwstore (NL) 055.035.0  
 Mash - 0.86 g - Epsom Salt (MgSO4)  
 ^ Lot # /2119000091  
 ^ Brouwstore (NL) 055.027.7  
 Mash - 0.88 g - Gypsum (CaSO4)  
 ^ Brouwmaatje (NL)  
 Mash - 4.5 l - NL Spa Reine Flat Mineral Water  
 ^ Lot # 20210413  
 ^ AH (NL)  
 Sparge - 4.5 l - NL Spa Reine Flat Mineral Water  
 ^ Lot # 20210413  
 ^ AH (NL)  
 60 min - Boil - 0.15 g - Lipohop K  
 ^ Lot # LPK110  
 ^ The Malt Miller (UK) CH-03-013  
 10 min - Boil - 1 g - Irish Moss  
 ^ Lot # 4348  
 ^ Brouwstore (NL)

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

Batch Size : 5.6 L  
 Boil Size : 7.76 L  
 Post-Boil Vol : 5.96 L

Mash Water : 4.5 L  
 Sparge Water : 4.82 L  
 Boil Time : 60 min  
 Total Water : 9.32 L



9 EBC

Brewhouse Efficiency: 71.8%  
 Mash Efficiency: 73.3%

## Mash Profile

10 American DIPA (75 min)  
 67.6 °C - Strike Temp  
 62 °C - 45 min - Stir frequently  
 68 °C - 30 min - Stir frequently

## Fermentation Profile

01 Ale + DR + Conditioning  
 17 °C - 10 days - Primary  
 21 °C - 4 days - Diacetyl rest  
 17 °C - 14 days - Carbonation  
 15 °C - 28 days - Conditioning

## Water Profile

NL Spa Reine Flat Mineral Water (www.ah.nl) (...  
 Ca 100 Mg 11 Na 3 Cl 134 SO 93 HCO 17

SO/Cl ratio: 0.7

Mash pH: 5.41

Sparge pH: 6

## Measurements

Mash pH: 5.38

Boil Volume: 8

Pre-Boil Gravity: 1.043

Post-Boil Kettle Volume: 6.51

Original Gravity: 1.060

Fermenter Top-Up:

Fermenter Volume: 5.5

Final Gravity: 1.005

Bottling Volume: 4.33

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## Recipe Notes

Malt is ordered with standard crush @ The Malt Miller (<https://www.themaltmiller.co.uk/>).

## Batch Notes

### Brew day

08-08-2021 11:45 added 5.83 gram Calciumchloride.  
08-08-2021 11:47 added 0.86 gram Epsom salt.  
08-08-2021 11:49 added 0.88 gram Gypsum.  
08-08-2021 11:50 strike water pH = 6.14 @ 18.4 C.  
08-08-2021 11:59 dough in.  
08-08-2021 12:05 mash pH = 5.45 @ 41.9 C.  
08-08-2021 12:10 mash pH = 5.38 @ 41.9 C.  
08-08-2021 12:22 mash pH = 5.40 @ 38.1 C.  
08-08-2021 12:30 mash pH = 5.42 @ 37.6 C.  
08-08-2021 12:47 mash pH = 5.38 @ 39.9 C.  
08-08-2021 12:57 mash pH = 5.38 @ 38.5 C.  
08-08-2021 13:12 mash pH = 5.35 @ 40.5 C.  
08-08-2021 13:37 mash pH = 5.35 @ 39.0 C.  
08-08-2021 14:00 first runnings SG = 1.072 @ 48.2 C --> 1.082 @ 20 C.  
08-08-2021 14:05 mash pH = 5.38 @ 41.9 C.  
08-08-2021 14:06 batch sparged with 4.5 L water @ 69 C.  
08-08-2021 14:35 collected 16 cm wort --> 8.0 L  
08-08-2021 14:41 SG = 1.035 @ 44.1 C --> 1.043 @ 20 C.  
08-08-2021 14:52 added 0.14 grams Lipohop-K.  
08-08-2021 15:04 start boil.  
08-08-2021 15:49 added 6.40 gram Sabro @ 45 minutes.  
08-08-2021 15:54 added 6.38 gram Sabro @ 50 minutes.  
08-08-2021 15:54 added 1.00 gram Irish moss @ 50 minutes.  
08-08-2021 15:54 added wort chiller @ 50 minutes.  
08-08-2021 15:59 added 6.40 gram Sabro @ 55 minutes.  
08-08-2021 15:59 added temperature probe @ 55 minutes.  
08-08-2021 16:04 flame out.  
08-08-2021 16:25 start hopstand @ 81.0 C.  
08-08-2021 16:25 added 12.6 grams Sabro.  
08-08-2021 16:45 end hopstand @ 71.5 C.  
08-08-2021 17:10 cooled down to 26.2 C with immersion cooler and 15 L tap water.  
08-08-2021 17:14 post boil volume = 13.2 cm --> 6.51 L (cold).  
08-08-2021 17:18 post boil SG = 1.060 @ 25 C.  
08-08-2021 17:25 pH = 5.31 @ 25.1 C.  
08-08-2021 20:30 pitched 7.02 grams Lallemend New England yeast @ 17.7 C.

### Day 0 in fermentation

08-08-2021 20:30 17.7 C, dp = 0 mm H2O, SG = 1.060, pH = 5.31.  
08-08-2021 23:47 16.8 C, dp = 5 mm H2O, no bubbles.

### Day 1 in fermentation

09-08-2021 08:41 16.8 C, dp = 5 mm H2O, no bubbles.  
09-08-2021 12:51 17.0 C, dp = 5 mm H2O, no bubbles.  
09-08-2021 18:22 17.3 C, dp = 5 mm H2O, no bubbles.  
09-08-2021 23:42 17.8 C, dp = 5 mm H2O, no bubbles.

### Day 2 in fermentation

10-08-2021 08:18 17.0 C, dp = 5 mm H2O, no bubbles, 7 mm Krausen.  
10-08-2021 12:28 17.4 C, dp = 5 mm H2O, no bubbles, 7 mm Krausen.  
10-08-2021 16:46 16.9 C, dp = 11 mm H2O, no bubbles, 12 mm Krausen.  
10-08-2021 19:43 17.3 C, dp = 5 mm H2O, no bubbles, 10 mm Krausen.  
10-08-2021 23:11 16.9 C, dp = 0 mm H2O, no bubbles, 10 mm Krausen.

### Day 3 in fermentation

11-08-2021 08:53 17.6 C, dp = 0 mm H2O, no bubbles.  
11-08-2021 12:50 16.8 C, dp = 0 mm H2O, no bubbles.  
11-08-2021 15:35 17.1 C, dp = 0 mm H2O, no bubbles.  
11-08-2021 23:08 17.0 C, dp = 0 mm H2O, no bubbles.

### Day 4 in fermentation

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## Batch Notes

12-08-2021 08:29 17.9 C, dp = 0 mm H2O, no bubbles.  
 12-08-2021 19:20 16.8 C, dp = 0 mm H2O, no bubbles.  
 12-08-2021 22:59 17.4 C, dp = 0 mm H2O, no bubbles.

### Day 5 in fermentation

13-08-2021 08:53 16.9 C, dp = 0 mm H2O, no bubbles.  
 13-08-2021 17:20 17.9 C, dp = 0 mm H2O, no bubbles.  
 13-08-2021 23:52 17.0 C, dp = 0 mm H2O, no bubbles.

### Day 6 in fermentation

14-08-2021 09:41 17.5 C, dp = 0 mm H2O, no bubbles.  
 14-08-2021 14:52 17.8 C, dp = 0 mm H2O, no bubbles.  
 14-08-2021 21:20 17.2 C, dp = 0 mm H2O, no bubbles.

### Day 7 in fermentation

15-08-2021 11:00 17.0 C, dp = 0 mm H2O, no bubbles.  
 15-08-2021 14:27 17.3 C, dp = 0 mm H2O, no bubbles.  
 15-08-2021 14:28 added 12.78 grams Sabro pellet hops for dry hopping.  
 15-08-2021 23:54 17.5 C, dp = 0 mm H2O, no bubbles.

### Day 8 in fermentation

16-08-2021 08:53 16.9 C, dp = 0 mm H2O, no bubbles.  
 16-08-2021 16:19 17.3 C, dp = 0 mm H2O, no bubbles.  
 16-08-2021 23:42 17.6 C, dp = 0 mm H2O, no bubbles.

### Day 9 in fermentation

17-08-2021 08:51 17.4 C, dp = 0 mm H2O, no bubbles.  
 17-08-2021 11:45 17.3 C, dp = 0 mm H2O, no bubbles.  
 17-08-2021 20:00 17.2 C, dp = 0 mm H2O, no bubbles.  
 17-08-2021 23:43 17.2 C, dp = 0 mm H2O, no bubbles.

### Day 10 in fermentation

18-08-2021 09:13 17.1 C, dp = 0 mm H2O, no bubbles.  
 18-08-2021 17:39 17.0 C, dp = 0 mm H2O, no bubbles.  
 18-08-2021 19:59 20.5 C, dp = 0 mm H2O, no bubbles.  
 18-08-2021 23:45 20.6 C, dp = 0 mm H2O, no bubbles.

### Day 11 in fermentation

19-08-2021 08:25 19.7 C, dp = 0 mm H2O, no bubbles.  
 19-08-2021 15:46 20.0 C, dp = 0 mm H2O, no bubbles.  
 19-08-2021 23:50 20.5 C, dp = 0 mm H2O, no bubbles.

### Day 12 in fermentation

20-08-2021 09:12 20.5 C, dp = 0 mm H2O, no bubbles.  
 20-08-2021 14:50 20.0 C, dp = 0 mm H2O, no bubbles.  
 20-08-2021 21:17 19.8 C, dp = 0 mm H2O, no bubbles.

### Day 13 in fermentation

21-08-2021 10:12 20.1 C, dp = 0 mm H2O, no bubbles.  
 21-08-2021 18:37 19.7 C, dp = 0 mm H2O, no bubbles.  
 21-08-2021 23:35 19.7 C, dp = 0 mm H2O, no bubbles.

### Day 14 in fermentation

22-08-2021 09:41 19.7 C, dp = 0 mm H2O, no bubbles.  
 22-08-2021 12:33 19.7 C, dp = 0 mm H2O, no bubbles.

### Bottling day

22-08-2021 12:50 Transferred fermenter.  
 22-08-2021 13:02 20.6 C, dp = 0 mm H2O, SG = 1.005, pH = 4.46.  
 22-08-2021 14:15 Filled 13 Steinie bottles (33 cl).

### Day 0 in conditioning

22-08-2021 14:15 20.1 C  
 22-08-2021 15:00 18.9 C  
 22-08-2021 16:00 17.1 C  
 22-08-2021 18:00 16.1 C

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## Batch Notes

22-08-2021 23:19 16.1 C

### Day 1 in conditioning

23-08-2021 08:48 16.9 C

23-08-2021 14:53 17.1 C

23-08-2021 23:58 16.5 C

### Day 2 in conditioning

24-08-2021 08:23 16.3 C

24-08-2021 14:17 16.4 C

24-08-2021 22:04 17.2 C

### Day 3 in conditioning

25-08-2021 09:07 17.7 C

25-08-2021 14:30 17.7 C

25-08-2021 23:44 16.6 C

### Day 4 in conditioning

26-08-2021 08:28 16.4 C

26-08-2021 17:07 16.5 C

26-08-2021 23:04 17.0 C

### Day 5 in conditioning

27-08-2021 08:47 17.1 C

27-08-2021 17:30 17.0 C

27-08-2021 23:39 17.0 C

### Day 6 in conditioning

28-08-2021 11:03 17.0 C

28-08-2021 17:15 17.0 C

28-08-2021 23:07 17.2 C

### Day 7 in conditioning

29-08-2021 09:42 17.3 C

29-08-2021 16:30 17.3 C

29-08-2021 23:37 17.3 C

### Day 8 in conditioning

30-08-2021 08:16 17.2 C

30-08-2021 15:56 17.2 C

30-08-2021 23:31 17.3 C

### Day 9 in conditioning

31-08-2021 08:20 17.4 C

31-08-2021 17:03 17.4 C

31-08-2021 22:11 17.4 C

### Day 10 in conditioning

01-09-2021 08:45 17.4 C

01-09-2021 18:00 17.4 C

01-09-2021 23:35 17.4 C

### Day 11 in conditioning

02-09-2021 09:03 17.4 C

02-09-2021 17:08 17.4 C

02-09-2021 23:44 17.6 C

### Day 12 in conditioning

03-09-2021 08:21 17.6 C

03-09-2021 17:53 17.2 C

03-09-2021 23:45 17.7 C

### Day 13 in conditioning

04-09-2021 09:17 17.6 C

04-09-2021 17:15 17.3 C

04-09-2021 23:42 17.4 C

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## Batch Notes

### Day 14 in conditioning

05-09-2021 10:00 17.3 C  
05-09-2021 17:00 17.1 C  
05-09-2021 22:45 17.6 C

### Day 15 in conditioning

06-09-2021 09:00 17.8 C  
06-09-2021 17:00 17.6 C  
06-09-2021 23:45 17.4 C

### Day 16 in conditioning

07-09-2021 08:00 16.7 C  
07-09-2021 18:30 17.9 C  
07-09-2021 23:45 16.6 C

### Day 17 in conditioning

08-09-2021 08:15 17.4 C  
08-09-2021 17:00 17.0 C  
08-09-2021 22:00 16.9 C

### Day 18 in conditioning

09-09-2021 07:15 16.5 C.  
09-09-2021 19:15 17.9 C.  
09-09-2021 23:00 16.6 C.

### Day 19 in conditioning

10-09-2021 08:30 17.9 C.  
10-09-2021 20:00 18.0 C.  
10-09-2021 23:45 16.8 C.

### Day 20 in conditioning

11-09-2021 08:30 17.9 C.  
11-09-2021 20:30 17.7 C.  
11-09-2021 23:15 17.5 C.

### Day 21 in conditioning

12-09-2021 08:00 17.0 C.  
12-09-2021 16:45 17.7 C.  
12-09-2021 16:50 bottles transferred to cellar.  
12-09-2021 20:20 20.0 C.  
12-09-2021 23:37 20.9 C.

### Day 22 in conditioning

13-09-2021 10:58 20.3 C.  
13-09-2021 19:51 20.2 C.  
13-09-2021 23:55 20.1 C.

### Day 23 in conditioning

14-09-2021 08:26 20.9 C.  
14-09-2021 19:00 20.6 C.  
14-09-2021 23:05 20.7 C.

### Day 24 in conditioning

15-09-2021 07:38 20.8 C.  
15-09-2021 18:18 20.7 C.  
15-09-2021 23:55 20.5 C.

### Day 25 in conditioning

16-09-2021 08:01 20.3 C.  
16-09-2021 21:23 20.0 C.  
16-09-2021 23:30 20.0 C.

### Day 26 in conditioning

17-09-2021 08:21 20.1 C.  
17-09-2021 16:03 20.0 C.

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## Batch Notes

17-09-2021 22:14 20.5 C.

Day 27 in conditioning

18-09-2021 09:01 20.5 C.

18-09-2021 16:02 20.3 C.

18-09-2021 23:56 20.6 C.

Day 28 in conditioning

19-09-2021 13:03 20.2 C.

19-09-2021 17:00 20.1 C.

19-09-2021 21:13 20.9 C.

Day 29 in conditioning

20-09-2021 09:17 20.3 C.

20-09-2021 12:02 20.2 C.

20-09-2021 22:20 20.9 C.

Day 30 in conditioning

21-09-2021 09:11 20.0 C.

21-09-2021 13:34 19.8 C.

21-09-2021 20:33 19.7 C.

21-09-2021 23:26 19.7 C.

Day 31 in conditioning

22-09-2021 06:59 19.5 C.

22-09-2021 17:40 19.5 C.

22-09-2021 23:25 19.7 C.

Day 32 in conditioning

23-09-2021 08:22 19.6 C.

23-09-2021 14:03 19.6 C.

23-09-2021 19:59 19.6 C.

23-09-2021 23:58 19.7 C.

Day 33 in conditioning

24-09-2021 08:19 19.7 C.

24-09-2021 14:31 19.6 C.

24-09-2021 23:41 20.0 C.

Day 34 in conditioning

25-09-2021 07:29 20.3 C.

25-09-2021 19:15 20.5 C.

25-09-2021 22:30 20.6 C.

Day 35 in conditioning

26-09-2021 08:34 20.9 C.

26-09-2021 15:19 20.9 C.

26-09-2021 23:09 20.2 C.

Day 36 in conditioning

27-09-2021 08:27 20.4 C.

27-09-2021 13:07 20.4 C.

27-09-2021 20:33 20.6 C.

Day 37 in conditioning

28-09-2021 08:09 19.9 C.

28-09-2021 15:02 19.7 C.

28-09-2021 23:45 19.5 C.

Day 38 in conditioning

29-09-2021 08:37 19.0 C.

29-09-2021 12:58 19.9 C.

29-09-2021 16:07 19.6 C.

29-09-2021 22:00 19.2 C.

Day 39 in conditioning

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## Batch Notes

30-09-2021 10:33 19.1 C.  
30-09-2021 16:02 19.7 C.  
30-09-2021 23:23 19.3 C.

Day 40 in conditioning  
01-10-2021 08:42 19.6 C.  
01-10-2021 13:15 19.5 C.  
01-10-2021 19:06 19.5 C.  
01-10-2021 23:49 19.4 C.

Day 41 in conditioning  
02-10-2021 09:03 19.3 C.  
02-10-2021 14:49 19.2 C.  
02-10-2021 18:43 19.1 C.  
02-10-2021 23:01 19.1 C.

Day 42 in conditioning  
03-10-2021 09:05 19.9 C.  
03-10-2021 17:45 19.7 C.  
03-10-2021 23:01 19.5 C.

## Extra Measured Values

Strike Temperature	67.2
Strike Water pH	6.14

## Batch Log

8 August 2021	Brew Date
8 August 2021	Fermentation Start
8 August 2021 11:59	Status: Brewing
8 August 2021 20:30	SV = 17.0 C.
15 August 2021 14:28	Added 12.76 grams Sabro pellet hops for dry hopping.
18 August 2021 17:40	SV = 21.0 C
18 August 2021 20:01	SV = 20.5 C
22 August 2021	Bottling Date
22 August 2021 14:15	Filled 13 Steinie bottles (33 cl).
22 August 2021 14:16	SV = 17.0 C
3 October 2021 23:03	Status: Completed

## Taste

3.2 / 5.0