

Batch #36 - 25 Jun 2023

65 Juniper Ascending - 6.4%

Kornøl

Brewer: The Thirsty Otter

Type: All Grain

IBU : 7 (Tinseth)
 BU/GU : 0.1
 Colour : 14 EBC
 Carbonation : 1.8 CO2-vol

Pre-Boil Gravity : 1.061
 Original Gravity : 1.061
 Total Gravity : 1.063
 Final Gravity : 1.014

Fermentables (1.5 kg)

1.372 kg - Pale Ale Malt 8.5 EBC (91.5%)
 ^ Lot # 20210909
 ^ Brouwmaatje (NL)
 128 g - Pale Ale Malt 10 EBC (8.5%)
 ^ Lot # 20220628
 ^ Brouwmaatje (NL) BM-BL.051.613.25/1
 20 g - Bottling - Sugar, Table (Sucrose) 2 EBC
 ^ Albert Heijn (NL)

Hops (4 g)

First Wort 75 - 4 g - Saaz - 3.6% (7 IBU)
 ^ Lot # T9020044SAA
 ^ Brouwmaatje (NL) BM-HUM.420000 Humlegarden...

Miscellaneous

Mash - 0.81 g - Baking Soda (NaHCO3)
 ^ Lot # 41190621/3
 ^ Brouwstore (NL) 003.106.2
 Mash - 2.17 g - Calcium Chloride (CaCl2) 33 %...
 ^ Lot # 115038
 ^ Brouwstore (NL) 055.035.0
 Mash - 0.81 g - Canning Salt (NaCl)
 ^ Albert Heijn (NL)
 Mash - 0.99 g - Epsom Salt (MgSO4)
 ^ Lot # /2119000091
 ^ Brouwstore (NL) 055.027.7
 Mash - 1.9 g - Gypsum (CaSO4)
 ^ Brouwmaatje (NL)
 Mash - 10 g - Juniper Berries
 ^ Lot # 5420069824761 (12.05.2023)
 ^ Brouwmaatje (NL) 054.114.1
 Mash - 0.8 ml - Lactic Acid 80% 88%
 ^ Lot # 20200213
 ^ Brouwstore (NL) 003.002.3
 Mash - 4.5 l - NL Spa Reine Flat Mineral Water
 ^ AH (NL)
 Sparge - 3.02 l - NL Spa Reine Flat Mineral W...
 ^ AH (NL)
 Boil - 15 g - Juniper Berries
 ^ Lot # 5420069824761 (12.05.2023)
 ^ Brouwmaatje (NL) 054.114.1
 Bottling - 10 items - 33 cl Steinie bottle (2...
 ^ Brouwstore (NL) 017.476.3
 Bottling - 5 items - Brewferm Carbonation Dro...
 ^ Brouwmaatje (NL) BM-BL.007.009.33
 Bottling - 10 items - Bottle Caps 26 mm (Orange)
 ^ Lot # 694-201130-111430-176081-1/1
 ^ The Malt Miller (UK) EQU-14-007

01 Brouwpunt 5L (no boil) (rev 4)

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

Mash Water : 4.5 L
 Sparge Water : 3.02 L
 Boil Time : 0 min
 Total Water : 7.52 L



14 EBC

Brewhouse Efficiency: 71.8%
 Mash Efficiency: 73.3%

Mash Profile

High fermentability plus mash out
 73.3 °C - Strike Temp
 67 °C - 60 min - Temperature
 78 °C - 15 min - Mash Out

Fermentation Profile

Ale
 30 °C - 5 days - Primary
 4 °C - 2 days - Cold Crash
 30 °C - 14 days - Carbonation

Water Profile

NL Spa Reine Flat Mineral Water (www.ah.nl) (...
 Ca 98 Mg 15 Na 75 Cl 131 SO 196

SO/Cl ratio: 1.5
 Mash pH: 5.35
 Sparge pH: 6

Measurements

Mash pH: 5.29
 Boil Volume: 6.5
 Pre-Boil Gravity: 1.045
 Post-Boil Kettle Volume: 6.5
 Original Gravity: 1.045
 Fermenter Top-Up:
 Fermenter Volume: 4.5
 Final Gravity: 1.010
 Bottling Volume: 3.3

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Recipe Notes

This is a raw ale - no boil.

Wort brought to 82 °C and held for 15 minutes to pasteurize prior to cooling.

Beer is traditionally served with low carbonation (residual CO2 from fermentation).

Original recipe at <https://escarpmentlabs.com/blogs/resources/traditional-norwegian-kornol-recipe>

Remove any protein and juniper oil ("head ache") from the wort before the break (what break ?).

Add Frozen Juniper berries to the fermenter after 2 days/48 hours.

Batch Notes

24-06-2023 21:00 Milled the malt @ 1.14 mm gap (0.045").

Brew day.

25-06-2023 12:00 4.5 L Spa flat mineral water in the mash pot.

25-06-2023 12:05 Added 0.81 grams Baking soda.

25-06-2023 12:07 Added 0.81 grams Canning salt.

25-06-2023 12:09 Added 0.99 grams Epsom salt.

25-06-2023 12:11 Added 1.87 grams Gypsum.

25-06-2023 12:13 Added 0.8 ml Lactic acid.

25-06-2023 12:15 Added 2.13 grams Calcium chloride.

25-06-2023 13:00 Strike water pH = 6.05@43.6 C.

25-06-2023 13:15 Started mash tracker.

25-06-2023 13:20 pH = 5.31@49.2 C.

25-06-2023 13:27 pH = 5.28@47.4 C.

25-06-2023 13:30 pH = 5.28@46.1 C.

25-06-2023 13:35 pH = 5.31@43.6 C.

25-06-2023 13:40 pH = 5.29@44.9 C.

25-06-2023 13:45 pH = 5.26@45.7 C.

25-06-2023 13:50 pH = 5.27@46.9 C.

25-06-2023 13:55 pH = 5.29@40.9 C.

25-06-2023 14:00 pH = 5.27@43.3 C.

25-06-2023 14:05 pH = 5.29@41.8 C.

25-06-2023 14:10 pH = 5.29@42.1 C.

25-06-2023 14:15 pH = 5.29@39.9 C.

25-06-2023 14:20 pH = 5.27@43.9 C.

25-06-2023 14:25 pH = 5.31@34.7 C.

25-06-2023 14:30 pH = 5.29@38.9 C.

25-06-2023 14:30 Stopped the mash tracker.

25-06-2023 14:45 Added 4.0 grams Saaz hop pellets.

25-06-2023 15:00 Added 3 L Spa flat mineral water @ 72 C.

25-06-2023 15:50 Level = 13.0 mm --> collected 6,5 L wort.

25-06-2023 15:57 SG = 1.037 @ 45.6 C --> SG = 1.045 @ 20 C.

25-06-2023 16:15 Added 15 grams crushed Juniper berries.

25-06-2023 16:20 pH = 5.38 @ 27.6 C.

25-06-2023 16:35 Ended 15 minutes no-boil @ > 83 C.

26-06-2023 21:09 Split off 1.0 L wort for Batch #37.

26-06-2023 21:14 Split off 1.0 L wort for Batch #38.

Day 0 in fermentation

26-06-2023 21:20 24.6 C., dp = 0 mm H2O, SG = 1.045, pH = 5.38.

26-06-2023 21:20 Pitched 7.00 grams yeast.

Day 1 in fermentation

27-06-2023 00:00 27.8 C., dp = 50 mm H2O, many bubbles.

27-06-2023 06:30 28.4 C., dp = 50 mm H2O, many bubbles.

27-06-2023 09:00 29.0 C., dp = 50 mm H2O, many bubbles.

27-06-2023 10:30 29.2 C., dp = 50 mm H2O, many bubbles.

27-06-2023 12:00 29.2 C., dp = 50 mm H2O, many bubbles.

27-06-2023 15:00 28.6 C., dp = 50 mm H2O, many bubbles.

27-06-2023 17:30 29.2 C., dp = 50 mm H2O, many bubbles.

27-06-2023 20:00 29.0 C., dp = 50 mm H2O, three bubbles.

27-06-2023 22:00 29.7 C., dp = 50 mm H2O, two bubbles.

Day 2 in fermentation

28-06-2023 00:00 28.5 C., dp = 50 mm H2O, one bubble.

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Batch Notes

28-06-2023 04:00 29.7 C.
28-06-2023 07:30 29.3 C., dp = 49 mm H2O, no bubbles.
28-06-2023 10:00 28.5 C., dp = 49 mm H2O, no bubbles.
28-06-2023 13:00 28.5 C., dp = 50 mm H2O, one bubbles.
28-06-2023 16:00 28.5 C., dp = 49 mm H2O, no bubbles.
28-06-2023 20:00 28.7 C., dp = 49 mm H2O, no bubbles.
28-06-2023 22:00 29.4 C., dp = 45 mm H2O, no bubbles.

Day 3 in fermentation

29-06-2023 00:00 28.7 C., dp = 40 mm H2O, no bubbles.
29-06-2023 04:00 29.8 C.
29-06-2023 08:00 29.6 C., dp = 45 mm H2O, no bubbles.
29-06-2023 13:15 28.9 C.
29-06-2023 16:00 29.3 C.
29-06-2023 18:00 29.6 C., dp = 15 mm H2O, no bubbles.
29-06-2023 21:00 28.9 C., dp = 15 mm H2O, no bubbles.
29-06-2023 23:00 29.4 C., dp = 15 mm H2O, no bubbles.

Day 4 in fermentation

30-06-2023 00:00 28.7 C.
30-06-2023 04:00 29.0 C.
30-06-2023 08:00 28.9 C., dp = 15 mm H2O, no bubbles.
30-06-2023 10:00 28.6 C., dp = 8 mm H2O, no bubbles.
30-06-2023 12:00 29.5 C., dp = 8 mm H2O, no bubbles.
30-06-2023 14:00 28.4 C., dp = 5 mm H2O, no bubbles.
30-06-2023 16:00 29.4 C., dp = 8 mm H2O, no bubbles.
30-06-2023 18:00 28.9 C., dp = 20 mm H2O, no bubbles.
30-06-2023 20:00 29.0 C., dp = 30 mm H2O, no bubbles.
30-06-2023 22:00 29.5 C., dp = 4 mm H2O, no bubbles.

Day 5 in fermentation

01-07-2023 00:00 28.6 C.
01-07-2023 04:00 29.4 C.
01-07-2023 08:00 29.4 C., dp = 5 mm H2O, no bubbles.
01-07-2023 12:00 28.6 C.
01-07-2023 16:00 28.8 C.
01-07-2023 19:00 29.3 C., dp = 2 mm H2O, no bubbles.
01-07-2023 23:00 29.5 C., dp = 2 mm H2O, no bubbles.

Day 6 in fermentation

02-07-2023 00:00 29.5 C.
02-07-2023 04:00 29.2 C.
02-07-2023 08:00 28.4 C., dp = 8 mm H2O, no bubbles.
02-07-2023 12:15 14.3 C., dp = -1 mm H2O, no bubbles.
02-07-2023 14:00 12.0 C., dp = -6 mm H2O, no bubbles.
02-07-2023 16:00 8.2 C., dp = -3 mm H2O, no bubbles.
02-07-2023 18:00 5.1 C., dp = -3 mm H2O, no bubbles.
02-07-2023 20:00 4.6 C., dp = -3 mm H2O, no bubbles.
02-07-2023 22:00 4.5 C., dp = 2 mm H2O, no bubbles.

Day 7 in fermentation

03-07-2023 00:00 3.7 C.
03-07-2023 04:00 5.0 C.
03-07-2023 08:00 4.6 C., dp = 1 mm H2O, no bubbles.
03-07-2023 12:00 3.9 C., dp = 2 mm H2O, no bubbles.
03-07-2023 16:00 3.8 C.
03-07-2023 20:00 4.0 C., dp = 2 mm H2O, no bubbles.

Day 8 in fermentation

04-07-2023 00:00 4.0 C.
04-07-2023 04:00 4.5 C.
04-07-2023 07:00 3.7 C., dp = 1 mm H2O, no bubbles.
04-07-2023 12:00 4.2 C.
04-07-2023 16:00 3.7 C.
04-07-2023 20:00 3.8 C., dp = 0 mm H2O, no bubbles.

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Batch Notes

Bottling day

04-07-2023 22:10 Filled 10 Steinie bottles (33 cl), half a carbonation drop per bottle.
04-07-2023 22:15 SG = 1.011 @ 10.8 C --> SG = 1.010 @ 20 C.
04-07-2023 22:15 pH = 4.23 @ 10.8 C.

Day 1 in conditioning

05-07-2023 00:00 13.2 C.
05-07-2023 04:00 18.2 C.
05-07-2023 08:00 21.1 C.
05-07-2023 12:00 23.3 C.
05-07-2023 16:00 25.0 C.
05-07-2023 20:00 26.4 C.

Day 2 in conditioning

06-07-2023 00:00 27.7 C.
06-07-2023 04:00 28.4 C.
06-07-2023 08:00 29.0 C.
06-07-2023 12:00 29.6 C.
06-07-2023 16:00 29.1 C.
06-07-2023 20:00 29.8 C.

Day 3 in conditioning

07-07-2023 00:00 29.5 C.
07-07-2023 04:00 29.0 C.
07-07-2023 08:00 29.3 C.
07-07-2023 12:00 30.0 C.
07-07-2023 16:00 29.3 C.
07-07-2023 20:00 29.3 C.

Day 4 in conditioning

08-07-2023 00:00 30.0 C.
08-07-2023 04:00 29.2 C.
08-07-2023 08:00 29.0 C.
08-07-2023 12:00 30.0 C.
08-07-2023 16:00 29.0 C.
08-07-2023 20:00 29.8 C.

Day 5 in conditioning

09-07-2023 00:00 29.2 C.
09-07-2023 04:00 29.5 C.
09-07-2023 08:00 30.1 C.
09-07-2023 12:00 29.0 C.
09-07-2023 16:00 29.9 C.
09-07-2023 20:00 29.6 C.

Day 6 in conditioning

10-07-2023 00:00 29.1 C.
10-07-2023 04:00 30.0 C.
10-07-2023 08:00 29.6 C.
10-07-2023 12:00 29.8 C.
10-07-2023 16:00 29.1 C.
10-07-2023 20:00 29.7 C.

Day 7 in conditioning

11-07-2023 00:00 29.7 C.
11-07-2023 04:00 29.0 C.
11-07-2023 08:00 29.8 C.
11-07-2023 12:00 29.8 C.
11-07-2023 16:00 29.1 C.
11-07-2023 20:00 30.0 C.

Day 8 in conditioning

12-07-2023 04:00 29.0 C.
12-07-2023 08:00 30.0 C.
12-07-2023 12:00 29.5 C.
12-07-2023 16:00 29.0 C.

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12-07-2023 20:00 30.0 C.

Day 9 in conditioning

13-07-2023 00:00 29.5 C.

13-07-2023 04:00 29.0 C.

13-07-2023 08:00 30.0 C.

13-07-2023 12:00 29.3 C.

13-07-2023 16:00 29.3 C.

13-07-2023 20:00 30.0 C.

Day 10 in conditioning

14-07-2023 00:00 29.3 C.

14-07-2023 04:00 29.0 C.

14-07-2023 08:00 29.8 C.

14-07-2023 12:00 29.1 C.

14-07-2023 16:00 29.7 C.

14-07-2023 20:00 29.9 C.

Day 11 in conditioning

15-07-2023 00:00 28.9 C.

15-07-2023 04:00 29.7 C.

15-07-2023 08:00 29.7 C.

15-07-2023 12:00 29.0 C.

15-07-2023 16:00 29.9 C.

15-07-2023 20:00 29.4 C.

Day 12 in conditioning

16-07-2023 00:00 29.0 C.

16-07-2023 04:00 30.1 C.

16-07-2023 08:00 29.3 C.

16-07-2023 12:00 29.2 C.

16-07-2023 16:00 30.0 C.

16-07-2023 20:00 29.6 C.

Day 13 in conditioning

17-07-2023 00:00 29.0 C.

17-07-2023 04:00 30.0 C.

17-07-2023 08:00 29.4 C.

17-07-2023 12:00 29.1 C.

17-07-2023 16:00 29.9 C.

17-07-2023 20:00 29.6 C.

Day 14 in conditioning

18-07-2023 00:00 29.0 C.

18-07-2023 04:30 29.9 C.

18-07-2023 08:00 29.2 C.

18-07-2023 12:00 29.5 C.

18-07-2023 19:00 29.0 C.

18-07-2023 21:00 29.8 C.

Extra Measured Values

Strike Water Temperature 73.3

Strike Water pH 6.05

Sparge Water Temperature 72

Sparge Water pH 6

Pitch Temperature 24.6

Batch Log

Batch #36 - 25 Jun 2023

Batch Log	
25 June 2023	Brew Date
25 June 2023 12:00	Status: Brewing
26 June 2023 21:20	Pitched 7.00 grams yeast.
26 June 2023 21:22	SV = 29.0 C.
26 June 2023	Fermentation Start
27 June 2023 19:00	SV = 29.5 C.
2 July 2023 08:30	SV = 4.0 C
4 July 2023 22:15	Filled 10 Steinie bottles (33 cl).
4 July 2023	Bottling Date
4 July 2023 22:54	SV = 30.0 C.
18 July 2023 23:20	Switched off heating.
18 July 2023 23:55	SV = 15.0 C.
18 July 2023 23:59	Status: Completed

Taste
3.0 / 5.0