

Batch #38 - 25 Jun 2023

65 Juniper Ascending v3 - 6.4%

Kornøl

Brewer: The Thirsty Otter

Type: All Grain

IBU : 6 (Tinseth)
 BU/GU : 0.1
 Colour : 13 EBC
 Carbonation : 1.8 CO2-vol

Pre-Boil Gravity : 1.061
 Original Gravity : 1.062
 Total Gravity : 1.063
 Final Gravity : 1.014

Fermentables (439 g)

439 g - Pale Ale Malt 8.5 EBC (100%)
 ^ Lot # 20210909
 ^ Brouwmaatje (NL) 051.011.5
 4 g - Bottling - Sugar, Table (Sucrose) 2 EBC
 ^ Albert Heijn (NL)

Hops (1.2 g)

First Wort 75 - 1.2 g - Saaz - 3.6% (6 IBU)
 ^ Lot # T9020044SAA
 ^ Brouwmaatje (NL) BM-HUM.420000 Humlegarden...

Miscellaneous

Mash - 0.174 g - Baking Soda (NaHCO3)
 ^ Lot # 41190621/3
 ^ Brouwstore (NL) 003.106.2
 Mash - 0.465 g - Calcium Chloride (CaCl2) 33...
 ^ Lot # 115038
 ^ Brouwstore (NL) 055.035.0
 Mash - 0.174 g - Canning Salt (NaCl)
 ^ Albert Heijn (NL)
 Mash - 0.212 g - Epsom Salt (MgSO4)
 ^ Lot # /2119000091
 ^ Brouwstore (NL) 055.027.7
 Mash - 0.416 g - Gypsum (CaSO4)
 ^ Brouwmaatje (NL)
 Mash - 0.171 ml - Lactic Acid 80% 88%
 ^ Lot # 20200213
 ^ Brouwstore (NL) 003.002.3
 Mash - 0.964 l - NL Spa Reine Flat Mineral Water
 ^ AH (NL)
 Sparge - 0.647 l - NL Spa Reine Flat Mineral...
 ^ AH (NL)
 Boil - 3.214 g - Juniper Berries
 ^ Lot # 5420069824761 (12.05.2023)
 ^ Brouwmaatje (NL) 054.114.1
 Primary - 5 g - Juniper Berries
 ^ Lot # 5420069824761 (12.05.2023)
 ^ Brouwmaatje (NL) 054.114.1
 Bottling - 1.5 items - Brewferm Carbonation D...
 ^ Brouwmaatje (NL) BM-BL.007.009.33
 Bottling - 3 items - 33 cl Steinie bottle (26...
 ^ Brouwstore (NL) 017.476.3
 Bottling - 3 items - Bottle Caps 26 mm (Orange)
 ^ Lot # 694-201130-111430-176081-1/1
 ^ The Malt Miller (UK) EQU-14-007

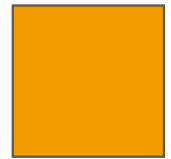
Yeast

0.1 pkg - Lallemant (LalBrew) Voss Kveik
 ^ Lot # 45701640827711V

02 PET Bottle 1.5L (0 min) (rev 4)

Batch Size : 1.2 L
 Boil Size : 1.88 L
 Post-Boil Vol : 1.87 L

Mash Water : 1.32 L
 Sparge Water : 0.98 L
 Boil Time : 0 min
 Total Water : 2.3 L



13 EBC

Brewhouse Efficiency: 52.7%
 Mash Efficiency: 79.1%

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 314 Mg 44 Na 238 Cl 418 SO 642

SO/Cl ratio: 1.5

Mash pH: 4.64

Sparge pH: 6

Measurements

Mash pH: 5.29

Boil Volume: 1

Pre-Boil Gravity: 1.045

Post-Boil Kettle Volume: 1

Original Gravity: 1.045

Fermenter Top-Up:

Fermenter Volume: 1

Final Gravity: 1.010

Bottling Volume: 1

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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

26-06-2023 21:14 Split off 1.0 L wort from Batch #36.

Day 0 in fermentation

25-06-2023 21:15 24.6 C, dp = 0 mm H2O, SG = 1.045, pH = 5.38.

26-06-2023 21:15 Pitched 1.00 grams yeast.

Day 1 in fermentation

27-06-2023 00:00 27.8 C.

27-06-2023 06:30 28.4 C.

27-06-2023 09:00 29.0 C.

27-06-2023 10:30 29.2 C.

27-06-2023 12:00 29.2 C.

27-06-2023 15:00 28.6 C.

27-06-2023 17:30 29.2 C.

27-06-2023 20:00 29.0 C.

27-06-2023 22:00 29.7 C.

Day 2 in fermentation

28-06-2023 00:00 28.5 C.

28-06-2023 04:00 29.7 C.

28-06-2023 07:30 29.3 C.

28-06-2023 10:00 28.5 C.

28-06-2023 13:00 28.5 C.

28-06-2023 16:00 28.5 C.

28-06-2023 20:00 28.7 C.

28-06-2023 20:15 Added 5 grams crushed Juniper berries soaked in wodka.

28-06-2023 22:00 29.4 C.

Day 3 in fermentation

29-06-2023 00:00 28.7 C.

29-06-2023 04:00 29.8 C.

29-06-2023 08:00 29.6 C.

29-06-2023 13:15 28.9 C.

29-06-2023 16:00 29.3 C.

29-06-2023 18:00 29.6 C.

29-06-2023 21:00 28.9 C.

29-06-2023 23:00 29.4 C.

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.

30-06-2023 10:00 28.6 C.

30-06-2023 12:00 29.5 C.

30-06-2023 14:00 28.4 C.

30-06-2023 16:00 29.4 C.

30-06-2023 18:00 28.9 C.

30-06-2023 20:00 29.0 C.

30-06-2023 22:00 29.5 C.

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.

01-07-2023 12:00 28.6 C.

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Batch Notes

01-07-2023 16:00 28.8 C.
01-07-2023 19:00 29.3 C.
01-07-2023 23:00 29.5 C.

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.
02-07-2023 12:15 14.3 C.
02-07-2023 14:00 12.0 C.
02-07-2023 16:00 8.2 C.
02-07-2023 18:00 5.1 C.
02-07-2023 20:00 4.6 C.
02-07-2023 22:00 4.5 C.

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.
03-07-2023 12:00 3.9 C.
03-07-2023 16:00 3.8 C.
03-07-2023 20:00 4.0 C.

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.
04-07-2023 12:00 4.2 C.
04-07-2023 16:00 3.7 C.
04-07-2023 20:00 3.8 C.

Bottling day

04-07-2023 21:31 SG = 1.011 @ 12.8 C --> SG = 1.010 @ 20 C.
04-07-2023 21:31 pH = 4.06 @ 12.8 C.
04-07-2023 21:40 Filled 3 Steinie bottles (33 cl), half a carbonation drop per bottle.

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.

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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.
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

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Batch Notes

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.

Extra Measured Values

| | |
|--------------------------|------|
| Strike Water Temperature | 83.3 |
| Strike Water pH | 6.05 |
| Sparge Water Temperature | 72 |
| Sparge Water pH | 6 |
| Pitch Temperature | 25 |

Batch Log

| | |
|--------------------|-----------------------------------|
| 25 June 2023 | Brew Date |
| 25 June 2023 12:00 | Status: Brewing |
| 26 June 2023 21:15 | Pitched 1.00 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. |
| 4 July 2023 21:40 | Filled 3 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 |