

## Batch #37 - 25 Jun 2023

## 65 Juniper Ascending v2 - 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 - 3 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

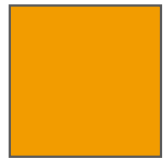
## Yeast

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:

Pre-Boil Gravity: 1.045

Post-Boil Kettle Volume:

Original Gravity: 1.045

Fermenter Top-Up:

Fermenter Volume: 1.15

Final Gravity: 1.011

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 21:09 Split off 1.0 L wort from Batch #36.

Day 0 in fermentation

25-06-2023 21:10 24.6 C, dp = 0 mm H2O, SG = 1.045, pH = 5.38.

26-06-2023 21:10 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 20:05 Added 3 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 21:10 SG = 1.012 @ 4 C --> SG 1.011 @ 20 C.  
04-07-2023 21:10 pH = 4.07 @ 11.3 C.  
04-07-2023 21:15 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.

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	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 21:10	Pitched 1.00 grams of 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 21:15	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

## Taste

3.0 / 5.0