

## Batch #36 - 25 Jun 2023

[www.brewfather.app](https://web.brewfather.app)

## Juni per Ascending - 6.4%

Kornøl

Brewer: The Thirsty Otter

Type: All Grain

IBU : 7 (Tinseth)  
 BU/GU : 0.1  
 Colour : 12 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

^ Brouwnaatje (NL)

128 g - Pale Ale Malt 10 EBC (8.5%)

^ Lot # 20220628

^ Brouwnaatje (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

^ Brouwnaatje (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)

^ Brouwnaatje (NL)

Mash - 10 g - Juni per Berries

^ Lot # 5420069824761 (12.05.2023)

^ Brouwnaatje (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 - Juni per Berries

^ Lot # 5420069824761 (12.05.2023)

^ Brouwnaatje (NL) 054.114.1

Bottling - 10 items - 33 cl Steinie bottle (2..

^ Brouwstore (NL) 017.476.3

Bottling - 5 items - Brewferm Carbonation Dro..

^ Brouwnaatje (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

12 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 HCO 94

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 rawale - 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 H<sub>2</sub>O, no bubbl es.  
 28-06-2023 10:00 28.5 C., dp = 49 mm H<sub>2</sub>O, no bubbl es.  
 28-06-2023 13:00 28.5 C., dp = 50 mm H<sub>2</sub>O, one bubbl es.  
 28-06-2023 16:00 28.5 C., dp = 49 mm H<sub>2</sub>O, no bubbl es.  
 28-06-2023 20:00 28.7 C., dp = 49 mm H<sub>2</sub>O, no bubbl es.  
 28-06-2023 22:00 29.4 C., dp = 45 mm H<sub>2</sub>O, no bubbl es.

## Day 3 in fermentation

29-06-2023 00:00 28.7 C., dp = 40 mm H<sub>2</sub>O, no bubbl es.  
 29-06-2023 04:00 29.8 C.  
 29-06-2023 08:00 29.6 C., dp = 45 mm H<sub>2</sub>O, no bubbl es.  
 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 H<sub>2</sub>O, no bubbl es.  
 29-06-2023 21:00 28.9 C., dp = 15 mm H<sub>2</sub>O, no bubbl es.  
 29-06-2023 23:00 29.4 C., dp = 15 mm H<sub>2</sub>O, no bubbl es.

## 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 H<sub>2</sub>O, no bubbl es.  
 30-06-2023 10:00 28.6 C., dp = 8 mm H<sub>2</sub>O, no bubbl es.  
 30-06-2023 12:00 29.5 C., dp = 8 mm H<sub>2</sub>O, no bubbl es.  
 30-06-2023 14:00 28.4 C., dp = 5 mm H<sub>2</sub>O, no bubbl es.  
 30-06-2023 16:00 29.4 C., dp = 8 mm H<sub>2</sub>O, no bubbl es.  
 30-06-2023 18:00 28.9 C., dp = 20 mm H<sub>2</sub>O, no bubbl es.  
 30-06-2023 20:00 29.0 C., dp = 30 mm H<sub>2</sub>O, no bubbl es.  
 30-06-2023 22:00 29.5 C., dp = 4 mm H<sub>2</sub>O, no bubbl es.

## 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 H<sub>2</sub>O, no bubbl es.  
 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 H<sub>2</sub>O, no bubbl es.  
 01-07-2023 23:00 29.5 C., dp = 2 mm H<sub>2</sub>O, no bubbl es.

## 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 H<sub>2</sub>O, no bubbl es.  
 02-07-2023 12:15 14.3 C., dp = -1 mm H<sub>2</sub>O, no bubbl es.  
 02-07-2023 14:00 12.0 C., dp = -6 mm H<sub>2</sub>O, no bubbl es.  
 02-07-2023 16:00 8.2 C., dp = -3 mm H<sub>2</sub>O, no bubbl es.  
 02-07-2023 18:00 5.1 C., dp = -3 mm H<sub>2</sub>O, no bubbl es.  
 02-07-2023 20:00 4.6 C., dp = -3 mm H<sub>2</sub>O, no bubbl es.  
 02-07-2023 22:00 4.5 C., dp = 2 mm H<sub>2</sub>O, no bubbl es.

## 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 H<sub>2</sub>O, no bubbl es.  
 03-07-2023 12:00 3.9 C., dp = 2 mm H<sub>2</sub>O, no bubbl es.  
 03-07-2023 16:00 3.8 C.  
 03-07-2023 20:00 4.0 C., dp = 2 mm H<sub>2</sub>O, no bubbl es.

## 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 H<sub>2</sub>O, no bubbl es.  
 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 H<sub>2</sub>O, no bubbl es.

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## 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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## Batch Notes

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

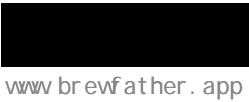
Sparge Water Temperature 72

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