

# #104 Dark Lager 1

Munich Dunkel (4 B)

**Type:** All Grain  
**Batch Size:** 20,00 l  
**Boil Size:** 23,33 l  
**Boil Time:** 60 min  
**End of Boil Vol:** 20,83 l  
**Final Bottling Vol:** 19,00 l  
**Fermentation:** Lager, Single Stage

**Date:** 30 Aug 2016  
**Brewer:** Thomas Nylander  
 Nørgaard  
**Asst Brewer:**  
**Equipment:** Brouwland gryde  
**Efficiency:** 83,00 %  
**Est Mash Efficiency:** 83,0 %  
**Taste Rating:** 30,0



## Taste Notes:

## Ingredients

Amt	Name	Type	#	%/IBU
1,80 kg	CHÂTEAU MUNICH (25,0 EBC)	Grain	1	45,6 %
1,50 kg	DMG Pilsner (4,0 EBC)	Grain	2	38,0 %
0,60 kg	Cara Bohemian (190,0 EBC)	Grain	3	15,2 %
0,05 kg	Carafa Special II (Weyermann) (817,5 EBC)	Grain	4	1,3 %
8,00 g	Topaz [15,90 %] - Boil 60,0 min	Hop	5	15,8 IBUs
1,00 tsp	Irish Moss (Boil 10,0 mins)	Fining	6	-
100,00 g	Mittelfruh [3,60 %] - Boil 5,0 min	Hop	7	8,9 IBUs
1,0 pkg	SafLager West European Lager (DCL/Ferme...)	Yeast	8	-
1,00 tsp	Yeast Nutrient (Primary 3,0 days)	Other	9	-

## Gravity, Alcohol Content and Color

**Est Original Gravity:** 1,048 SG  
**Est Final Gravity:** 1,012 SG  
**Estimated Alcohol by Vol:** 4,8 %  
**Bitterness:** 24,7 IBUs  
**Est Color:** 39,2 EBC

**Measured Original Gravity:** 1,045 SG  
**Measured Final Gravity:** 1,010 SG  
**Actual Alcohol by Vol:** 4,6 %  
**Calories:** 417,6 kcal/l

## Mash Profile

**Mash Name:** Single Infusion, Medium Body  
**Sparge Water:** 11,22 l  
**Sparge Temperature:** 75,6 C  
**Adjust Temp for Equipment:** FALSE  
**Est Mash PH:** 5,29  
**Measured Mash PH:** 5,20

**Total Grain Weight:** 3,95 kg  
**Grain Temperature:** 22,2 C  
**Tun Temperature:** 22,2 C  
**Target Mash PH:** 5,20  
**Mash Acid Addition:**  
**Sparge Acid Addition:**

## Mash Steps

Name	Description	Step Temperature	Step Time
Mash In	Add 12,30 l of water at 72,1 C	66,7 C	60 min
Mash Out	Add 5,77 l of water at 96,8 C	75,6 C	10 min

**Sparge:** Fly sparge with 11,22 l water at 75,6 C

**Mash Notes:** Simple single infusion mash for use with most modern well modified grains (about 95% of the time).

## Carbonation and Storage

**Carbonation Type:** Keg  
**Pressure/Weight:** 12,54 PSI  
**Keg/Bottling Temperature:** 7,2 C  
**Fermentation:** Lager, Single Stage

**Volumes of CO2:** 2,3  
**Carbonation Used:** Keg with 12,54  
PSI  
**Age for:** 30,00 days  
**Storage Temperature:** 15,6 C

### Notes

RetroØIDesignet TilUngeBorgereOgRaskeGutter

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