

## 5# Ulvöspinel - German Lager

- Gravity **14.7 BLG**
- ABV **6.1 %**
- IBU **25**
- SRM **4.2**
- Style **Munich Helles**

### Batch size

- Expected quantity of finished beer **38 liter(s)**
- Trub loss **5 %**
- Size with trub loss **39.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **48.1 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **31.5 liter(s)**
- Total mash volume **42 liter(s)**

### Steps

- Temp **65.5 C**, Time **60 min**
- Temp **70 C**, Time **30 min**

### Mash step by step

- Heat up **31.5 liter(s)** of strike water to **73.1C**
- Add grains
- Keep mash **60 min** at **65.5C**
- Keep mash **30 min** at **70C**
- Sparge using **27.1 liter(s)** of **76C** water or to achieve **48.1 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	BESTMALZ - Best Pilsen	9 kg (85.7%)	80.5 %	4
Grain	BESTMALZ - Best Vienna	1 kg (9.5%)	80.5 %	9
Grain	Bestmalz Carmel Pils	0.5 kg (4.8%)	75 %	5

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hallertau	110 g	60 min	4.2 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM31 Bawarska Dolina	Lager	Slant	200 ml	Fermentum Mobile

### Notes

- Pierwsza warka po 2 tygodniach burzliwej dawała H<sub>2</sub>S-em. Zobaczyć jak po 3 miesiącach w butelkach. Jeżeli dalej będzie czuć, to następnym razem w takim przypadku wrzucić na tydzień cichej.

Rozcieńczyć do 12.5 BLG.

Dodano 1 kg Wiedeńskiego, bo został po lagerze wiedeńskim.

110 g Hallertau + 40 g Lubelskiego.

Fermentacja w trybie przyspieszonym - 10 dni 10 st. C, 3-4 dni 16 st.C, 1 dzień 1 st. C.

Na podstawie:

<https://www.brewersfriend.com/2010/08/29/german-lager-recipe-all-grain/>

#### Procedure

Mash at 150F (65.5C) for 60 minutes, then 158F (70C) for 30 minutes.

90 minute boil.

Ferment for 3 weeks in the primary, before racking, pull it out of the fridge and let it warm to room temperature for 2 days (diacetyl rest). Rack it, and leave it around 36F for 4-6 weeks.

I then keg it, force carbonate, and after about 3 months it is ready to drink. The beer tastes strange when it is green. It really needs the extra time to settle down. Be patient with it!

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