

## 4A. Munich Helles Pseudo-Lager lutra

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- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **18**
- SRM **3.7**
- Style **Munich Helles**

### Batch size

- Expected quantity of finished beer **17 liter(s)**
- Trub loss **10 %**
- Size with trub loss **18.7 liter(s)**
- Boil time **60 min**
- Evaporation rate **12 %/h**
- Boil size **23.9 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **4.64 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **24.3 liter(s)**

### Steps

- Temp **52 C**, Time **15 min**
- Temp **65 C**, Time **45 min**

### Mash step by step

- Heat up **20 liter(s)** of strike water to **55.4C**
- Add grains
- Keep mash **15 min** at **52C**
- Keep mash **45 min** at **65C**
- Sparge using **8.2 liter(s)** of **76C** water or to achieve **23.9 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	4 kg (93%)	81 %	4
Grain	Strzegom Wiedeński	0.3 kg (7%)	79 %	10

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Perle	20 g	60 min	7 %
Dry Hop	Perle	50 g	3 day(s)	7 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Lutra OYL-071	Ale	Dry	10 g	Omega

### Extras

Type	Name	Amount	Use for	Time
Water Agent	CaCl2	2 g	Mash	90 min

### Notes

- 20 st C 7-10 dni  
2 st C tydzień  
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