

## lager ....

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- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **19**
- SRM **7.5**

### Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.4 liter(s)**
- Total mash volume **23.2 liter(s)**

### Steps

- Temp **63 C**, Time **55 min**
- Temp **70 C**, Time **20 min**
- Temp **78 C**, Time **1 min**

### Mash step by step

- Heat up **17.4 liter(s)** of strike water to **70.2C**
- Add grains
- Keep mash **55 min** at **63C**
- Keep mash **20 min** at **70C**
- Keep mash **1 min** at **78C**
- Sparge using **17.4 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pszeniczny	4 kg (69%)	81 %	6
Grain	Viking Malt Wędzony Czereśnią	1 kg (17.2%)	82 %	10
Grain	Grodziski pszeniczny wędzony dębem	0.5 kg (8.6%)	80 %	3
Grain	Strzegom Karmel 150	0.3 kg (5.2%)	75 %	150

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Mosaic	20 g	60 min	10 %