

# Ciemny lager - Schwarzbier (w.robocza)

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- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **23**
- SRM **24.1**
- Style **Schwarzbier**

## Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **5 %**
- Size with trub loss **10.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **12.7 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.9 liter(s) / kg**
- Mash size **7 liter(s)**
- Total mash volume **9.4 liter(s)**

## Steps

- Temp **65 C**, Time **60 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **7 liter(s)** of strike water to **72.7C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **5 min** at **78C**
- Sparge using **8.1 liter(s)** of **76C** water or to achieve **12.7 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	2.2 kg (91.7%)	80 %	4
Grain	Fawcett - Pszoniczny Czekoladowy	0.2 kg (8.3%)	73 %	1001

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hallertau Mittelfruh	20 g	60 min	3 %
Boil	Hallertau Mittelfruh	20 g	20 min	3 %
Boil	Hallertau Mittelfruh	10 g	5 min	3 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Saflager W 34/70	Lager	Dry	8 g	Fermentis