

# Ciemny Lager

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **19**
- SRM **22**
- Style **Schwarzbier**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **16.6 liter(s)**
- Total mash volume **21.4 liter(s)**

## Steps

- Temp **52 C**, Time **10 min**
- Temp **69 C**, Time **60 min**
- Temp **78 C**, Time **1 min**

## Mash step by step

- Heat up **16.6 liter(s)** of strike water to **56.6C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **60 min** at **69C**
- Keep mash **1 min** at **78C**
- Sparge using **13.5 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

| Type  | Name                     | Amount         | Yield | EBC  |
|-------|--------------------------|----------------|-------|------|
| Grain | Pilzneński               | 2.2 kg (46.3%) | 81 %  | 4    |
| Grain | Strzegom Wiedeński       | 2.2 kg (46.3%) | 79 %  | 10   |
| Grain | Carafa II                | 0.25 kg (5.3%) | 70 %  | 1100 |
| Grain | Fawcett - Pale Chocolate | 0.1 kg (2.1%)  | 71 %  | 600  |

## Hops

| Use for | Name      | Amount | Time   | Alpha acid |
|---------|-----------|--------|--------|------------|
| Boil    | Tradition | 30 g   | 60 min | 5.5 %      |

## Yeasts

| Name        | Type | Form  | Amount | Laboratory |
|-------------|------|-------|--------|------------|
| Kveik Lutra | Ale  | Slant | 300 ml | ---        |