

## #197 Ciemna pszenica

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **10**
- SRM **15.2**
- Style **Dunkelweizen**

### Batch size

- Expected quantity of finished beer **21.9 liter(s)**
- Trub loss **6 %**
- Size with trub loss **23.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **6 %/h**
- Boil size **25.1 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.05 liter(s) / kg**
- Mash size **14 liter(s)**
- Total mash volume **18.6 liter(s)**

### Steps

- Temp **44 C**, Time **10 min**
- Temp **66 C**, Time **30 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **1 min**

### Mash step by step

- Heat up **14 liter(s)** of strike water to **47.9C**
- Add grains
- Keep mash **10 min** at **44C**
- Keep mash **30 min** at **66C**
- Keep mash **20 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **15.7 liter(s)** of **76C** water or to achieve **25.1 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Malt pszeniczny	2.65 kg (57.6%)	81 %	5
Grain	Viking Malt monachijski	1.5 kg (32.6%)	80 %	15
Grain	Viking Malt karmelowy ciemny	0.25 kg (5.4%)	75 %	600
Grain	Viking Malt karmelowy jasny	0.2 kg (4.3%)	75 %	150

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Lubelski PL 2022 granulat	25 g	60 min	3.8 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM41 Gwoździe i Banany	Wheat	Slant	50 ml	Fermentum Mobile