

# Czarne Żniwa

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **18**
- SRM **18.3**
- Style **Dunkelweizen**

## Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.5 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.6 liter(s)**
- Total mash volume **22.2 liter(s)**

## Steps

- Temp **44 C**, Time **20 min**
- Temp **63 C**, Time **45 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **1 min**

## Mash step by step

- Heat up **16.6 liter(s)** of strike water to **48C**
- Add grains
- Keep mash **20 min** at **44C**
- Keep mash **45 min** at **63C**
- Keep mash **20 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **15.5 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann pszeniczny jasny	3 kg (54.1%)	80 %	6
Grain	Monachijski	2 kg (36%)	80 %	16
Grain	Strzegom Karmel 150	0.2 kg (3.6%)	75 %	150
Grain	Strzegom Karmel 600	0.35 kg (6.3%)	68 %	600

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hallertauer Tradition	45 g	30 min	5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Mauribrew Weiss Y1433	Wheat	Dry	11.5 g	Mauribrew

## Notes

- Zacieranie:
    - 20 minut w 44°C
    - 45 minut w 63°C
    - 20 minut w 72°C
    - 1 minuta wygrzew
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