

# Saison czarny bez

- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **24**
- SRM **7.2**
- Style **Saison**

## Batch size

- Expected quantity of finished beer **33 liter(s)**
- Trub loss **10 %**
- Size with trub loss **39.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **49.3 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **25.8 liter(s)**
- Total mash volume **34.4 liter(s)**

## Steps

- Temp **64 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **25.8 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **60 min** at **64C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **32.1 liter(s)** of **76C** water or to achieve **49.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	5.6 kg (65.2%)	80 %	5
Grain	cara crystal	0.4 kg (4.7%)	75 %	150
Grain	COOKIE	0.4 kg (4.7%)	80 %	30
Grain	Oats, Flaked	0.79 kg (9.2%)	80 %	2
Grain	Strzegom Monachijski typ I	1.4 kg (16.3%)	79 %	16

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Galaxy	10 g	60 min	15 %
Boil	Cascade PL	10 g	60 min	5.5 %
Boil	Lublin (Lubelski)	20 g	60 min	4 %
Boil	Lublin (Lubelski)	10 g	30 min	4 %
Aroma (end of boil)	Galaxy	20 g	5 min	15 %
Aroma (end of boil)	Cascade PL	20 g	5 min	5.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
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Safale BE-134	Ale	Dry	18.25 g	Fermentis
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### Extras

Type	Name	Amount	Use for	Time
Herb	Czarny bez	47.6 g	Boil	5 min
Herb	wrzos	15.87 g	Boil	5 min