

# Czarna pszczoła

- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **30**
- SRM **28.3**
- Style **Dark American Lager**

## 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 **3 liter(s) / kg**
- Mash size **9.9 liter(s)**
- Total mash volume **13.2 liter(s)**

## Steps

- Temp **63 C**, Time **20 min**
- Temp **72 C**, Time **40 min**

## Mash step by step

- Heat up **9.9 liter(s)** of strike water to **70.2C**
- Add grains
- Keep mash **20 min** at **63C**
- Keep mash **40 min** at **72C**
- Sparge using **6.1 liter(s)** of **76C** water or to achieve **12.7 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	2.8 kg (84.8%)	81 %	4
Grain	Strzegom Karmel 300	0.35 kg (10.6%)	70 %	299
Grain	Jęczmień palony	0.15 kg (4.5%)	55 %	985

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Lublin (Lubelski)	35 g	60 min	4 %
Aroma (end of boil)	Lublin (Lubelski)	10 g	10 min	4 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Lager	Dry	11.5 g	Fermentis

## Extras

Type	Name	Amount	Use for	Time
Flavor	Miód wielokwiatowy	1000 g	Primary	14 day(s)