Czarna porzeczka

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **24**
- SRM **4.7**
- Style **Fruit Beer**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.7 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

Steps

- Temp **68 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **45 min** at **68C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **15.7 liter(s)** of **76C** water or to achieve **25.7 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Słód Pilsner® 2,5-4,5 EBC Weyermann	4 kg *(80%)*	80 %	4
Grain	Monachijski	1 kg *(20%)*	80 %	16

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	15 g	60 min	13.5 %
Aroma (end of boil)	Cascade PL	20 g	5 min	5.2 %
Dry Hop	Cascade PL	20 g	5 day(s)	5.2 %

Yeasts

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

Extras

Type	Name	Amount	Use for	Time
Flavor	czarna porzeczka	1000 g	Secondary	7 day(s)

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.