

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) |