

Żytni brown porter

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **19**
- SRM **17.5**
- Style **Brown Porter**

Batch size

- Expected quantity of finished beer **18 liter(s)**
- Trub loss **5 %**
- Size with trub loss **18.9 liter(s)**
- Boil time **65 min**
- Evaporation rate **15 %/h**
- Boil size **24.1 liter(s)**

Mash information

- Mash efficiency **65 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.5 liter(s)**
- Total mash volume **18 liter(s)**

Steps

- Temp **68 C**, Time **60 min**
- Temp **76 C**, Time **0 min**

Mash step by step

- Heat up **13.5 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **0 min** at **76C**
- Sparge using **15.1 liter(s)** of **76C** water or to achieve **24.1 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3.6 kg (80%)	80 %	5
Grain	Caraaroma	0.3 kg (6.7%)	78 %	400
Grain	Carafa Special I	0.1 kg (2.2%)	70 %	900
Grain	Żytni	0.5 kg (11.1%)	85 %	8

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	English Golding	20 g	60 min	4.8 %
Boil	English Golding	10 g	15 min	4.8 %
Aroma (end of boil)	Willamette	30 g	5 min	5 %

Yeasts

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

Notes

- carafa special 1 przed wygrzewem
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