

Żytnie

- Gravity **15.2 BLG**
- ABV **6.3 %**
- IBU **24**
- SRM **15.1**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **12 %/h**
- Boil size **25.8 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **5.3 liter(s) / kg**
- Mash size **31.8 liter(s)**
- Total mash volume **37.8 liter(s)**

Steps

- Temp **62 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **31.8 liter(s)** of strike water to **66C**
- Add grains
- Keep mash **30 min** at **62C**
- Keep mash **10 min** at **78C**
- Sparge using **liter(s)** of **76C** water or to achieve **25.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Żytni	2 kg (33.3%)	85 %	8
Grain	Strzegom Pilzneński	2.5 kg (41.7%)	80 %	4
Grain	caramel aromatic	1 kg (16.7%)	77 %	180
Grain	wiedeński	0.5 kg (8.3%)	--- %	---

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Cascade PL	25 g	90 min	5.2 %
Boil	Cascade PL	25 g	30 min	5.2 %
Aroma (end of boil)	Cascade PL	25 g	0 min	5.2 %