

Żytnie_harcerskie

- Gravity **6.3 BLG**
- ABV **2.4 %**
- IBU **12**
- SRM **3.8**
- Style **Roggenbier**

Batch size

- Expected quantity of finished beer **40 liter(s)**
- Trub loss **5 %**
- Size with trub loss **42.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **51 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **4.7 liter(s) / kg**
- Mash size **23.5 liter(s)**
- Total mash volume **28.5 liter(s)**

Steps

- Temp **63 C**, Time **25 min**
- Temp **66 C**, Time **10 min**
- Temp **72 C**, Time **25 min**

Mash step by step

- Heat up **23.5 liter(s)** of strike water to **67.6C**
- Add grains
- Keep mash **25 min** at **63C**
- Keep mash **10 min** at **66C**
- Keep mash **25 min** at **72C**
- Sparge using **32.5 liter(s)** of **76C** water or to achieve **51 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Wiedeński	2.5 kg (50%)	79 %	10
Grain	Strzegom Karmel 30	0.5 kg (10%)	75 %	30
Grain	pizneński	1 kg (20%)	85 %	3
Grain	Żytni	1 kg (20%)	85 %	8

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook	10 g	60 min	13 %
Aroma (end of boil)	Lublin (Lubelski)	50 g	5 min	4 %

Yeasts

Name	Type	Form	Amount	Laboratory
ebbegarden	Ale	Slant	50 ml	---

Extras

Type	Name	Amount	Use for	Time
Spice	trawa cytrynowa	20 g	Boil	15 min