

## Roggenbier 2.0

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- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **24**
- SRM **15**
- Style **Roggenbier**

### Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **5 %**
- Size with trub loss **10.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **25 %/h**
- Boil size **13.8 liter(s)**

### Mash information

- Mash efficiency **65 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **11 liter(s)**
- Total mash volume **13.7 liter(s)**

### Steps

- Temp **44 C**, Time **30 min**
- Temp **68 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

### Mash step by step

- Heat up **11 liter(s)** of strike water to **47C**
- Add grains
- Keep mash **30 min** at **44C**
- Keep mash **40 min** at **68C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **5.5 liter(s)** of **76C** water or to achieve **13.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Żytni	1.5 kg (54.7%)	85 %	8
Grain	Strzegom Wiedeński	0.25 kg (9.1%)	79 %	10
Grain	Pilzneński	0.4 kg (14.6%)	81 %	4
Grain	Special B Malt	0.15 kg (5.5%)	65.2 %	315
Grain	Pszeniczny	0.4 kg (14.6%)	85 %	4
Grain	Carafa II	0.04 kg (1.5%)	70 %	812

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hallertau Mittelfruh	15 g	45 min	5 %
Boil	Hallertau Mittelfruh	15 g	15 min	5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM41 Gwoździe i Banany	Wheat	Liquid	1000 ml	Fermentum Mobile

## Extras

Type	Name	Amount	Use for	Time
Water Agent	Łuska ryżowa	100 g	Mash	90 min
Water Agent	Kwas fosforowy	2 g	Mash	30 min
Woda do wyśładzania				