

Żyto

- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **14**
- SRM **4.8**
- Style **Roggenbier**

Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.5 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **19.3 liter(s)**
- Total mash volume **24.8 liter(s)**

Steps

- Temp **48 C**, Time **20 min**
- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **77 C**, Time **10 min**

Mash step by step

- Heat up **19.3 liter(s)** of strike water to **52C**
- Add grains
- Keep mash **20 min** at **48C**
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **72C**
- Keep mash **10 min** at **77C**
- Sparge using **12.7 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Żytni	3 kg (54.5%)	85 %	8
Grain	Pilzneński	2.5 kg (45.5%)	81 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Tradition	25 g	60 min	5.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
FM41 Gwoździe i Banany	Wheat	Slant	200 ml	Fermentum Mobile