

## Żytnie 2.0

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- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **15**
- SRM **8.8**
- Style **Roggenbier**

### Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **5 %**
- Size with trub loss **15.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **19 liter(s)**

### Mash information

- Mash efficiency **65 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **16.6 liter(s)**
- Total mash volume **21.4 liter(s)**

### Steps

- Temp **45 C**, Time **20 min**
- Temp **65 C**, Time **40 min**
- Temp **73 C**, Time **20 min**

### Mash step by step

- Heat up **16.6 liter(s)** of strike water to **48.6C**
- Add grains
- Keep mash **20 min** at **45C**
- Keep mash **40 min** at **65C**
- Keep mash **20 min** at **73C**
- Sparge using **7.2 liter(s)** of **76C** water or to achieve **19 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Rye Malt	2.5 kg (52.6%)	63 %	10
Grain	Viking Pilsner malt	1 kg (21.1%)	82 %	4
Grain	Viking Munich Malt	1 kg (21.1%)	78 %	18
Grain	Caramunich® typ I	0.25 kg (5.3%)	73 %	80

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Lublin (Lubelski)	20 g	60 min	4 %
Boil	Lublin (Lubelski)	10 g	15 min	4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM20 Białe Walonki	Wheat	Slant	500 ml	Fermentum Mobile