

## #16 Ryżowe ale

- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **48**
- SRM **3.1**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

### 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 **10 %/h**
- Boil size **25.3 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.5 liter(s)**
- Total mash volume **18 liter(s)**

### Steps

- Temp **64 C**, Time **40 min**
- Temp **68 C**, Time **60 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **13.5 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **40 min** at **64C**
- Keep mash **60 min** at **68C**
- Keep mash **10 min** at **76C**
- Sparge using **16.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Ryż	2 kg (44.4%)	70 %	2
Grain	Strzegom Pilzneński	1.5 kg (33.3%)	80 %	4
Grain	Strzegom Pszeniczny	0.5 kg (11.1%)	81 %	6
Grain	Płatki owsiane	0.4 kg (8.9%)	85 %	3
Grain	Acid Malt	0.1 kg (2.2%)	58.7 %	6

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	magnum	30 g	60 min	11.5 %
Boil	Hallertau	9 g	60 min	5 %
Boil	Fuggles	8 g	60 min	3.65 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11.5 g	Fermentis