

#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 |