

później

- Gravity **16.8 BLG**
- ABV **7.1 %**
- IBU **54**
- SRM **20.1**
- Style **Black IPA**

Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **14.5 liter(s)**

Mash information

- Mash efficiency **83 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **11 liter(s)**
- Total mash volume **14.6 liter(s)**

Steps

- Temp **61 C**, Time **60 min**
- Temp **70 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **11 liter(s)** of strike water to **67.8C**
- Add grains
- Keep mash **60 min** at **61C**
- Keep mash **20 min** at **70C**
- Keep mash **5 min** at **78C**
- Sparge using **7.2 liter(s)** of **76C** water or to achieve **14.5 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------------------|----------------|-------|-----|
| Grain | Simpsons - Maris Otter | 2.5 kg (68.5%) | 81 % | 6 |
| Grain | crystal wheat | 0.25 kg (6.8%) | 80 % | 60 |
| Grain | Pszeniczny | 0.25 kg (6.8%) | 85 % | 4 |
| Grain | Briess - Black Malt | 0.25 kg (6.8%) | 55 % | 600 |
| Grain | Płatki owsiane | 0.2 kg (5.5%) | 60 % | 3 |
| Grain | Płatki jęczmienne | 0.2 kg (5.5%) | 60 % | 3 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|----------------|--------|--------|------------|
| Boil | Nelson Sauvign | 20 g | 60 min | 11 % |
| Boil | Nelson Sauvign | 10 g | 30 min | 11 % |
| Boil | Nelson Sauvign | 5 g | 15 min | 11 % |
| Aroma (end of boil) | Nelson Sauvign | 15 g | 0 min | 11 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|-------|--------|------------|
| Safale S-33 | Ale | Slant | 200 ml | Fermentis |