

Rye Black IPA

- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **55**
- SRM **20.5**
- Style **Black IPA**

Batch size

- Expected quantity of finished beer **11 liter(s)**
- Trub loss **5 %**
- Size with trub loss **13.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **25 %/h**
- Boil size **17.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **15.2 liter(s)**
- Total mash volume **19 liter(s)**

Steps

- Temp **66 C**, Time **45 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **15.2 liter(s)** of strike water to **71.8C**
- Add grains
- Keep mash **45 min** at **66C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **5.9 liter(s)** of **76C** water or to achieve **17.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|----------------|-------|-----|
| Grain | Strzegom Pilzneński | 1.2 kg (31.6%) | 80 % | 4 |
| Grain | Żytni | 1.9 kg (50%) | 85 % | 8 |
| Grain | Weyermann - Carafa II | 0.2 kg (5.3%) | 70 % | 837 |
| Grain | Strzegom Monachijski typ I | 0.5 kg (13.2%) | 79 % | 16 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|----------|--------|--------|------------|
| Boil | lunga'19 | 39 g | 40 min | 10 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------|------|-------|--------|------------|
| Safale US-05 | Ale | Slant | 100 ml | Fermentis |

Extras

| Type | Name | Amount | Use for | Time |
|-------------|--------------|--------|---------|--------|
| Water Agent | Łuska ryżowa | 100 g | Mash | 90 min |