

## Black Rye IPA (Żytorillo klon)

- Gravity **14.7 BLG**
- ABV **6.1 %**
- IBU **45**
- SRM **28.7**
- Style **Rye IPA**

### Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29.6 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **24 liter(s)**
- Total mash volume **32 liter(s)**

### Steps

- Temp **68 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **80 C**, Time **0 min**

### Mash step by step

- Heat up **24 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **40 min** at **68C**
- Keep mash **20 min** at **72C**
- Keep mash **0 min** at **80C**
- Sparge using **13.6 liter(s)** of **76C** water or to achieve **29.6 liter(s)** of wort

### Fermentables

| Type  | Name                            | Amount         | Yield  | EBC  |
|-------|---------------------------------|----------------|--------|------|
| Grain | Strzegom Pilzneński             | 4.5 kg (56.3%) | 80 %   | 4    |
| Grain | Żytni                           | 1 kg (12.5%)   | 85 %   | 8    |
| Grain | Strzegom Monachijski typ II     | 1 kg (12.5%)   | 79 %   | 22   |
| Grain | WeWyer mann - Carafa Specjal II | 0.5 kg (6.3%)  | 5 %    | 1150 |
| Grain | Rye, Flaked                     | 0.5 kg (6.3%)  | 78.3 % | 4    |
| Grain | Słód owsiany Fawcett            | 0.5 kg (6.3%)  | 61 %   | 5    |

### Hops

| Use for      | Name     | Amount | Time      | Alpha acid |
|--------------|----------|--------|-----------|------------|
| Boil         | Amarillo | 25 g   | 15 min    | 15 %       |
| Whirlpool    | Amarillo | 50 g   | 0 min     | 9.5 %      |
| 30min w 80°C |          |        |           |            |
| Dry Hop      | Amarillo | 25 g   | 14 day(s) | 9.5 %      |
| Dry Hop      | Amarillo | 50 g   | 3 day(s)  | 9.5 %      |
| Boil         | Iunga    | 30 g   | 60 min    | 11 %       |

## Yeasts

| Name        | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale  | Dry  | 11.5 g | Fermentis  |

## Extras

| Type        | Name           | Amount | Use for   | Time     |
|-------------|----------------|--------|-----------|----------|
| Fining      | Whirlfloc      | 2.5 g  | Boil      | 10 min   |
| Water Agent | chlorek wapnia | 3 g    | Mash      | 0 min    |
| Water Agent | Witamina C     | 3 g    | Secondary | 3 day(s) |
| Water Agent | Sol Epsom      | 5 g    | Mash      | 0 min    |