

Black IPA

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **30**
- SRM **20.7**
- Style **Black IPA**

Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.7 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **28.5 liter(s)**

Mash information

- Mash efficiency **66 %**
- Liquor-to-grist ratio **3.4 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **25.9 liter(s)**

Steps

- Temp **64 C**, Time **50 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **0 min**

Mash step by step

- Heat up **20 liter(s)** of strike water to **70.5C**
- Add grains
- Keep mash **50 min** at **64C**
- Keep mash **15 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **14.4 liter(s)** of **76C** water or to achieve **28.5 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|----------------|-------|------|
| Grain | Strzegom Pilzneński | 3.3 kg (56.1%) | 80 % | 4 |
| Grain | Viking Wheat Malt | 1 kg (17%) | 83 % | 5 |
| Grain | Wędzony bukiem Viking Malt | 0.5 kg (8.5%) | 82 % | 10 |
| Grain | Jęczmień niesłodowany | 0.53 kg (9%) | 75 % | 2 |
| Grain | Strzegom Karmel 30 | 0.3 kg (5.1%) | 75 % | 30 |
| Grain | Strzegom Barwiący | 0.25 kg (4.3%) | 68 % | 1300 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|-----------|------------------------|--------|--------|------------|
| Boil | Columbus/Tomahawk/Zeus | 20 g | 60 min | 14.5 % |
| Whirlpool | Amarillo | 30 g | 0 min | 8.9 % |
| Whirlpool | Cascade PL | 42 g | 0 min | 4.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale | Dry | 11 g | Safale |

Extras

| Type | Name | Amount | Use for | Time |
|-------------|-----------------|--------|-----------|----------|
| Fining | mech irlandzki | 5 g | Boil | 10 min |
| Water Agent | gips piwowarski | 5 g | Mash | 60 min |
| Other | pulpa mango | 1700 g | Secondary | 7 day(s) |
| Herb | liście kaffir | 5 g | Bottling | --- |