

## 9 BRO IPA

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- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **68**
- SRM **5.3**
- Style **American IPA**

### Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.5 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **17.5 liter(s)**
- Total mash volume **22.5 liter(s)**

### Steps

- Temp **63 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **17.5 liter(s)** of strike water to **69.1C**
- Add grains
- Keep mash **45 min** at **63C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **14 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

### Fermentables

| Type  | Name                       | Amount       | Yield | EBC |
|-------|----------------------------|--------------|-------|-----|
| Grain | Viking Pale Ale malt       | 3.5 kg (70%) | 80 %  | 5   |
| Grain | Strzegom Monachijski typ I | 1.5 kg (30%) | 79 %  | 16  |

### Hops

| Use for   | Name                   | Amount | Time     | Alpha acid |
|-----------|------------------------|--------|----------|------------|
| Boil      | Columbus/Tomahawk/Zeus | 50 g   | 30 min   | 15.5 %     |
| Whirlpool | Palisade               | 50 g   | 5 min    | 7.5 %      |
| Dry Hop   | Citra                  | 60 g   | 3 day(s) | 12 %       |

### Yeasts

| Name         | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale US-05 | Ale  | Dry  | 11.5 g | Fermentis  |

### Extras

| Type  | Name         | Amount | Use for   | Time     |
|-------|--------------|--------|-----------|----------|
| Spice | Blue curacao | 30 g   | Secondary | 7 day(s) |