

## Black\_IPA\_#3

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- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **57**
- SRM **25**
- Style **Black IPA**

### Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **28 liter(s)**

### Steps

- Temp **66 C**, Time **60 min**

### Mash step by step

- Heat up **21 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Sparge using **15 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

### Fermentables

| Type  | Name                      | Amount        | Yield | EBC |
|-------|---------------------------|---------------|-------|-----|
| Grain | Weyermann - Pale Ale Malt | 5 kg (71.4%)  | 85 %  | 7   |
| Grain | Weyermann - Carafa II     | 0.5 kg (7.1%) | 70 %  | 837 |
| Grain | Biscuit Malt              | 0.5 kg (7.1%) | 79 %  | 45  |
| Grain | Caramel Pale Viking       | 0.5 kg (7.1%) | 10 %  | 8   |
| Grain | Caramel Red Viking        | 0.5 kg (7.1%) | 10 %  | 50  |

### Hops

| Use for             | Name                   | Amount | Time   | Alpha acid |
|---------------------|------------------------|--------|--------|------------|
| Boil                | Columbus/Tomahawk/Zeus | 20 g   | 60 min | 14.7 %     |
| Boil                | Amarillo               | 20 g   | 45 min | 9.5 %      |
| Boil                | Cascade                | 20 g   | 45 min | 6 %        |
| Boil                | Willamette             | 20 g   | 15 min | 5 %        |
| Aroma (end of boil) | Cascade                | 20 g   | 0 min  | 6 %        |

### Yeasts

| Name         | Type | Form  | Amount | Laboratory |
|--------------|------|-------|--------|------------|
| Safale US-05 | Ale  | Slant | 200 ml | ---        |

### Extras

| Type   | Name           | Amount | Use for | Time   |
|--------|----------------|--------|---------|--------|
| Other  | cukier brązowy | 200 g  | Boil    | 15 min |
| Fining | mech Irlandzki | 10 g   | Boil    | 10 min |