# Czorny wongiel

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- Gravity **15.7 BLG**
- ABV **6.6 %**
- IBU **51**
- SRM **31.1**
- Style **Black IPA**

## Batch size

- Expected quantity of finished beer **38 liter(s)**
- Trub loss **5 %**
- Size with trub loss **41 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **49.3 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **37.5 liter(s)**
- Total mash volume **50 liter(s)**

## Steps

- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **0 min**

## Mash step by step

- Heat up **37.5 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **24.3 liter(s)** of **76C** water or to achieve **49.3 liter(s)** of wort

## Fermentables

| Type | Name | Amount | Yield | EBC |
|---|---|---|---|---|
| Grain | Viking Pale Ale malt | 5 kg *(38.5%)* | 80 % | 5 |
| Grain | Viking Pilsner malt | 5.5 kg *(42.3%)* | 82 % | 4 |
| Grain | Weyermann - Carafa II | 1 kg *(7.7%)* | 70 % | 1100 |
| Grain | Carahell | 0.5 kg *(3.8%)* | 77 % | 26 |
| Grain | Biscuit Malt | 0.5 kg *(3.8%)* | 79 % | 45 |
| Sugar | cukier | 0.5 kg *(3.8%)* | --- % | --- |

## Hops

| Use for | Name | Amount | Time | Alpha acid |
|---|---|---|---|---|
| Boil | Centennial | 60 g | 60 min | 10.5 % |
| Boil | Cascade | 50 g | 45 min | 6 % |
| Boil | Fuggles | 50 g | 15 min | 4.5 % |
| Aroma (end of boil) | Cascade | 50 g | 0 min | 6 % |
| Dry Hop | Cascade | 110 g | 3 day(s) | 6 % |
| Dry Hop | Centennial | 20 g | 3 day(s) | 10.5 % |

## Yeasts

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.

| Name | Type | Form | Amount | Laboratory |
|---|---|---|---|---|
| Safale US-05 | Ale | Dry | 23 g | Fermentis |

## Extras

| Type | Name | Amount | Use for | Time |
|---|---|---|---|---|
| Fining | mech irlandzki | 10 g | Boil | 15 min |