

# Czarne Oko

- Gravity **17.3 BLG**
- ABV **7.4 %**
- IBU **68**
- SRM **30**
- Style **Black IPA**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **6 %**
- Size with trub loss **21.2 liter(s)**
- Boil time **70 min**
- Evaporation rate **18 %/h**
- Boil size **30 liter(s)**

## Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.5 liter(s)**
- Total mash volume **24.7 liter(s)**

## Steps

- Temp **66 C**, Time **60 min**
- Temp **78 C**, Time **1 min**

## Mash step by step

- Heat up **18.5 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **1 min** at **78C**
- Sparge using **17.7 liter(s)** of **76C** water or to achieve **30 liter(s)** of wort

## Fermentables

| Type                 | Name                | Amount         | Yield | EBC  |
|----------------------|---------------------|----------------|-------|------|
| Grain                | Strzegom Pilzneński | 5 kg (78.4%)   | 80 %  | 4    |
| Grain                | Strzegom Karmel 30  | 0.45 kg (7.1%) | 75 %  | 35   |
| Grain                | Biscuit Malt        | 0.23 kg (3.6%) | 79 %  | 50   |
| Grain                | Carafa II Specjal   | 0.5 kg (7.8%)  | 70 %  | 1150 |
| Na początek mash-out |                     |                |       |      |
| Sugar                | Cukier biały        | 0.2 kg (3.1%)  | --- % | ---  |

## Hops

| Use for             | Name       | Amount | Time   | Alpha acid |
|---------------------|------------|--------|--------|------------|
| Boil                | Chinook    | 35 g   | 70 min | 12.8 %     |
| Boil                | Cascade    | 30 g   | 45 min | 5.4 %      |
| Boil                | Willamette | 30 g   | 15 min | 6.1 %      |
| Aroma (end of boil) | Citra      | 30 g   | 5 min  | 13.1 %     |
| Aroma (end of boil) | Cascade    | 20 g   | 5 min  | 5.4 %      |

## Yeasts

| Name         | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale US-05 | Ale  | Dry  | 22 g   | Fermentis  |

## Extras

| Type  | Name          | Amount | Use for   | Time     |
|-------|---------------|--------|-----------|----------|
| Other | kwaskorbinowy | 4 g    | Secondary | 1 day(s) |