

# CZARNA IPA

- Gravity **15.9 BLG**
- ABV **6.7 %**
- IBU **44**
- SRM **28.3**
- Style **Black IPA**

## Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **13 %/h**
- Boil size **30.4 liter(s)**

## Mash information

- Mash efficiency **77 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **22.2 liter(s)**
- Total mash volume **29.6 liter(s)**

## Steps

- Temp **66 C**, Time **45 min**
- Temp **72 C**, Time **25 min**
- Temp **78 C**, Time **1 min**

## Mash step by step

- Heat up **22.2 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **45 min** at **66C**
- Keep mash **25 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **15.6 liter(s)** of **76C** water or to achieve **30.4 liter(s)** of wort

## Fermentables

| Type                  | Name                         | Amount         | Yield | EBC  |
|-----------------------|------------------------------|----------------|-------|------|
| Grain                 | Pale Ale / Pils śrut         | 5 kg (67.6%)   | 79 %  | 5    |
| Grain                 | Weyermann - Pszeniczny jasny | 0.5 kg (6.8%)  | 82 %  | 4    |
| Grain                 | Weyermann - Carapils         | 0.5 kg (6.8%)  | 78 %  | 5    |
| Grain                 | Weyermann - Carafa III       | 0.25 kg (3.4%) | 65 %  | 1500 |
| dodany po II przerwie |                              |                |       |      |
| Grain                 | Castle Malting - Wheat Black | 0.15 kg (2%)   | 77 %  | 1400 |
| dodany po II przerwie |                              |                |       |      |
| Grain                 | Płatki pszeniczne            | 0.5 kg (6.8%)  | 85 %  | 3    |
| Grain                 | Płatki owsiane               | 0.5 kg (6.8%)  | 85 %  | 3    |

## Hops

| Use for | Name                | Amount | Time   | Alpha acid |
|---------|---------------------|--------|--------|------------|
| Boil    | Zeus - granulát     | 15 g   | 60 min | 14 %       |
| Boil    | Citra - granulát    | 20 g   | 15 min | 13 %       |
| Boil    | Amarillo - granulát | 20 g   | 15 min | 8.3 %      |

|           |                     |      |          |       |
|-----------|---------------------|------|----------|-------|
| Whirlpool | Citra - granulát    | 20 g | 15 min   | 13 %  |
| W 75°C    |                     |      |          |       |
| Whirlpool | Amarillo - granulát | 20 g | 15 min   | 8.3 % |
| W 75°C    |                     |      |          |       |
| Dry Hop   | Citra - granulát    | 50 g | 4 day(s) | 13 %  |
| Dry Hop   | Amarillo - granulát | 50 g | 4 day(s) | 8.3 % |

## Yeasts

| Name         | Type | Form  | Amount | Laboratory |
|--------------|------|-------|--------|------------|
| Safale US-05 | Ale  | Slant | 100 ml | ---        |

## Extras

| Type   | Name      | Amount | Use for | Time   |
|--------|-----------|--------|---------|--------|
| Fining | Whirlfloc | 1.25 g | Boil    | 10 min |

## Notes

- Woda kranówka modyfikowana do 5,3 pH  
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