

## Black IPA 3.0

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- Gravity **17.1 BLG**
- ABV **7.3 %**
- IBU **63**
- SRM **34.9**
- Style **Black IPA**

### Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **10 %**
- Size with trub loss **12 liter(s)**
- Boil time **60 min**
- Evaporation rate **20 %/h**
- Boil size **15.6 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **15.5 liter(s)**
- Total mash volume **19.4 liter(s)**

### Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

### Mash step by step

- Heat up **15.5 liter(s)** of strike water to **69.5C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **4 liter(s)** of **76C** water or to achieve **15.6 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	2.5 kg (61.3%)	80 %	4
Grain	Pszeniczny	0.3 kg (7.4%)	85 %	4
Grain	Słód owsiany Fawcett	0.25 kg (6.1%)	61 %	5
Sugar	Brown Sugar, Light	0.2 kg (4.9%)	100 %	16
Grain	Fawcett - Pale Chocolate	0.17 kg (4.2%)	71 %	600
Grain	Carafa II	0.26 kg (6.4%)	70 %	1100
Grain	Płatki owsiane	0.4 kg (9.8%)	85 %	3

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	15 g	60 min	10 %
Boil	Simcoe	15 g	45 min	14.5 %
Whirlpool	Simcoe	15 g	5 min	14.5 %
Whirlpool	Amarillo	15 g	5 min	8.3 %
Dry Hop	Simcoe	30 g	3 day(s)	14.5 %
Dry Hop	Mosaic	30 g	3 day(s)	12.6 %

Dry Hop	HBC472	15 g	3 day(s)	9.5 %
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### Yeasts

Name	Type	Form	Amount	Laboratory
FM52 Amerykański Sen	Ale	Slant	100 ml	Fermentum Mobile

### Extras

Type	Name	Amount	Use for	Time
Water Agent	Kwas mlekowy	1 g	Mash	1 min