

# Black IPA

- Gravity **15.9 BLG**
- ABV **6.7 %**
- IBU **63**
- SRM **32.2**
- Style **Black IPA**

## Batch size

- Expected quantity of finished beer **8 liter(s)**
- Trub loss **5 %**
- Size with trub loss **8.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **10.1 liter(s)**

## Mash information

- Mash efficiency **71 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **8.3 liter(s)**
- Total mash volume **11 liter(s)**

## Steps

- Temp **62 C**, Time **15 min**
- Temp **72 C**, Time **45 min**
- Temp **76 C**, Time **10 min**

## Mash step by step

- Heat up **8.3 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **15 min** at **62C**
- Keep mash **45 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **4.6 liter(s)** of **76C** water or to achieve **10.1 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	1.8 kg (65.2%)	80 %	5
Grain	Strzegom Karmel 150	0.04 kg (1.4%)	75 %	150
Grain	Weyermann - Carapils	0.04 kg (1.4%)	78 %	4
Grain	Jęczmień palony	0.24 kg (8.7%)	55 %	985
Grain	Płatki owsiane	0.12 kg (4.3%)	85 %	3
Grain	Żytni	0.12 kg (4.3%)	85 %	8
Grain	Pszeniczny	0.4 kg (14.5%)	85 %	4

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	8 g	60 min	15.5 %
Boil	Columbus/Tomahawk/Zeus	6 g	20 min	15.5 %
Boil	Citra	4 g	20 min	12 %
Boil	Columbus/Tomahawk/Zeus	6 g	10 min	15.5 %
Boil	Citra	4 g	10 min	12 %
Boil	Cascade	8 g	0 min	6 %

Boil	Citra	4 g	0 min	12 %
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### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	10 g	Fermentis

### Extras

Type	Name	Amount	Use for	Time
Water Agent	Gips piwowarski	5 g	Mash	0 min