

## Black\_IPA\_#3

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- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **57**
- SRM **25**
- Style **Black IPA**

### Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **28 liter(s)**

### Steps

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

### Mash step by step

- Heat up **21 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Sparge using **15 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	5 kg (71.4%)	85 %	7
Grain	Weyermann - Carafa II	0.5 kg (7.1%)	70 %	837
Grain	Biscuit Malt	0.5 kg (7.1%)	79 %	45
Grain	Caramel Pale Viking	0.5 kg (7.1%)	10 %	8
Grain	Caramel Red Viking	0.5 kg (7.1%)	10 %	50

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	20 g	60 min	14.7 %
Boil	Amarillo	20 g	45 min	9.5 %
Boil	Cascade	20 g	45 min	6 %
Boil	Willamette	20 g	15 min	5 %
Aroma (end of boil)	Cascade	20 g	0 min	6 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Slant	200 ml	---

### Extras

Type	Name	Amount	Use for	Time
Other	cukier brązowy	200 g	Boil	15 min
Fining	mech Irlandzki	10 g	Boil	10 min