

## #54 Black IPA

- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **50**
- SRM **36.4**
- Style **Black IPA**

### Batch size

- Expected quantity of finished beer **16 liter(s)**
- Trub loss **4.92 %**
- Size with trub loss **17.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **9.38 %/h**
- Boil size **21.3 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.31 liter(s) / kg**
- Mash size **13 liter(s)**
- Total mash volume **16.9 liter(s)**

### Steps

- Temp **68 C**, Time **60 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **13 liter(s)** of strike water to **75.3C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **12.2 liter(s)** of **76C** water or to achieve **21.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	2.62 kg (66.7%)	80 %	5
Grain	Strzegom Czekoladowy ciemny	0.26 kg (6.6%)	68 %	900
Grain	Carafa III	0.13 kg (3.3%)	70 %	1400
Grain	Simpsons - Black Malt	0.13 kg (3.3%)	70 %	1650
Grain	Strzegom Wiedeński	0.79 kg (20.1%)	79 %	10

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	15.74 g	60 min	15.5 %
Boil	Columbus/Tomahawk/Zeus	10.49 g	30 min	15.5 %
Whirlpool	Citra	50 g	0 min	12 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM54 Gorączka kalifornijska	Ale	Slant	0.21 ml	Fermentum Mobile