

## Black IPA - Hubert

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- Gravity **16.4 BLG**
- ABV **6.9 %**
- IBU **36**
- SRM **32.3**
- Style **Black IPA**

### Batch size

- Expected quantity of finished beer **11.5 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **14.5 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12.1 liter(s)**
- Total mash volume **16.2 liter(s)**

### Steps

- Temp **55 C**, Time **5 min**
- Temp **63 C**, Time **60 min**
- Temp **72 C**, Time **15 min**
- Temp **76 C**, Time **5 min**

### Mash step by step

- Heat up **12.1 liter(s)** of strike water to **60.9C**
- Add grains
- Keep mash **5 min** at **55C**
- Keep mash **60 min** at **63C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **6.5 liter(s)** of **76C** water or to achieve **14.5 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	2 kg (49.4%)	85 %	7
Grain	Pszeniczny	0.5 kg (12.3%)	85 %	4
Grain	Monachijski	0.4 kg (9.9%)	80 %	16
Grain	Płatki owsiane	0.15 kg (3.7%)	60 %	3
Grain	Weyermann - Carapils	0.2 kg (4.9%)	78 %	4
Grain	Carahell	0.2 kg (4.9%)	77 %	26
Grain	Płatki pszeniczne	0.15 kg (3.7%)	60 %	3
Grain	Caraaroma	0.15 kg (3.7%)	78 %	400
Grain	Jęczmień palony	0.2 kg (4.9%)	55 %	985
Grain	Carafa II	0.1 kg (2.5%)	70 %	812

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	15 g	25 min	17.3 %
Boil	Palisade	10 g	5 min	7.3 %

Boil	Comet	10 g	5 min	8.3 %
Boil	Cascade	10 g	1 min	6 %
Boil	Comet	10 g	1 min	8.3 %
Boil	Palisade	10 g	1 min	7.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	6 g	Fermentis

## Notes

- chmiele na zimno / fermentacja cicha
    - comet 10 g
    - cascade 10 g
    - palisade 10 g
    - magnum 20 g
- Mar 17, 2023, 11:30 PM*