

## Black Rye IPA po latach ;)

- Gravity **14.5 BLG**
- ABV **6 %**
- IBU **74**
- SRM **26.3**
- Style **Black IPA**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.3 liter(s)**
- Total mash volume **23 liter(s)**

### Steps

- Temp **67 C**, Time **60 min**
- Temp **78 C**, Time **5 min**

### Mash step by step

- Heat up **17.3 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **5 min** at **78C**
- Sparge using **13.8 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	2.5 kg (43.5%)	80 %	4
Grain	Carafa II	0.5 kg (8.7%)	70 %	812
Grain	Pszeniczny	1 kg (17.4%)	85 %	4
Grain	Żytni	1 kg (17.4%)	85 %	8
Grain	Strzegom Karmel 150	0.25 kg (4.3%)	75 %	150
Grain	Monachijski	0.5 kg (8.7%)	80 %	16

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	29 g	60 min	15 %
Boil	Amarillo	30 g	30 min	8 %
Boil	Centennial	15 g	30 min	9 %
Aroma (end of boil)	Centennial	34 g	0 min	9 %

### Yeasts

Name	Type	Form	Amount	Laboratory
US-05	Ale	Dry	11 g	safale