

# Black Rye IPA

- Gravity **17.3 BLG**
- ABV **7.4 %**
- IBU **87**
- SRM **18.1**

## Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **5 %**
- Size with trub loss **15.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **19 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **26.3 liter(s)**

## Steps

- Temp **67 C**, Time **60 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **21 liter(s)** of strike water to **72.9C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **3.3 liter(s)** of **76C** water or to achieve **19 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Castle Pale Ale	2.5 kg (47.6%)	80 %	8
Grain	Strzegom Pilzneński	1 kg (19%)	80 %	4
Grain	Żytni	1.35 kg (25.7%)	85 %	8
Grain	Weyermann - Carafoam	0.2 kg (3.8%)	81 %	5
Grain	Wheat, Roasted	0.2 kg (3.8%)	54.3 %	837

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	20 g	60 min	6.5 %
Boil	Waimea	50 g	20 min	17.07 %
Boil	Pekko	20 g	5 min	16.8 %

## Yeasts

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