

# Smoked rye

- Gravity **14 BLG**
- ABV ---
- IBU **27**
- SRM **13.3**
- Style **Other Smoked Beer**

## 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 **16.2 liter(s)**
- Total mash volume **21.6 liter(s)**

## Steps

- Temp **45 C**, Time **20 min**
- Temp **67 C**, Time **40 min**
- Temp **72 C**, Time **40 min**

## Mash step by step

- Heat up **16.2 liter(s)** of strike water to **49.2C**
- Add grains
- Keep mash **20 min** at **45C**
- Keep mash **40 min** at **67C**
- Keep mash **40 min** at **72C**
- Sparge using **14.5 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Smoked Malt	3.6 kg (66.7%)	80 %	18
Grain	Rye Malt	1.3 kg (24.1%)	63 %	10
Grain	Biscuit Malt	0.5 kg (9.3%)	79 %	45

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Tradition	30 g	60 min	5.4 %
Boil	Cascade	20 g	15 min	7.7 %
Boil	Cascade	20 g	0 min	7.7 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM52 Amerykański Sen	Ale	Slant	100 ml	---