

Rye Pale Ale

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **33**
- SRM **4.5**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **20.5 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **28.2 liter(s)**

Mash information

- Mash efficiency **72 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.3 liter(s)**
- Total mash volume **23 liter(s)**

Steps

- Temp **69 C**, Time **45 min**

Mash step by step

- Heat up **17.3 liter(s)** of strike water to **77.1C**
- Add grains
- Keep mash **45 min** at **69C**
- Sparge using **16.7 liter(s)** of **76C** water or to achieve **28.2 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4.75 kg (82.6%)	80 %	5
Grain	Żytni	1 kg (17.4%)	85 %	8

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	20 g	60 min	13.5 %
Boil	Motueka	25 g	10 min	7 %
Boil	Motueka	25 g	0 min	7 %
Dry Hop	Galaxy	100 g	3 day(s)	15 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11.5 g	Fermentis