

Hans Kłos

- Gravity **13.1 BLG**
- ABV ---
- IBU **21**
- SRM **4.1**
- Style **American Wheat or Rye Beer**

Batch size

- Expected quantity of finished beer **30 liter(s)**
- Trub loss **5 %**
- Size with trub loss **31.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **38 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.3 liter(s)**
- Total mash volume **24.4 liter(s)**

Steps

- Temp **63 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **1 min**

Mash step by step

- Heat up **18.3 liter(s)** of strike water to **70.2C**
- Add grains
- Keep mash **40 min** at **63C**
- Keep mash **20 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **25.8 liter(s)** of **76C** water or to achieve **38 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3 kg (49.2%)	80 %	5
Grain	Pszeniczny	3 kg (49.2%)	85 %	4
Grain	Oats, Flaked	0.1 kg (1.6%)	80 %	2

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Topaz	10 g	60 min	15 %
Boil	Topaz	20 g	10 min	15 %
Boil	Rakau (NZ)	10 g	1 min	9.5 %
Dry Hop	Rakau (NZ)	25 g	7 day(s)	9.5 %
Dry Hop	Rakau (NZ)	25 g	14 day(s)	9.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Bavarian Wheat 11	Wheat	Dry	11.5 g	Gozdawa