Volenti non fit iniuria 1.0

- Gravity **15 BLG**
- ABV **6.2 %**
- IBU **35**
- SRM **10.4**
- Style **Roggenbier**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **20.1 liter(s)**
- Total mash volume **25.9 liter(s)**

Steps

- Temp **68 C**, Time **60 min**
- Temp **80 C**, Time **1 min**

Mash step by step

- Heat up **20.1 liter(s)** of strike water to **74.9C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **1 min** at **80C**
- Sparge using **11.7 liter(s)** of **76C** water or to achieve **26 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Malt - Pale Ale	3 kg *(52.2%)*	80 %	7
Grain	Viking Malt - Żytni	2 kg *(34.8%)*	80 %	5
Grain	Weyermann - Żytni karmelowy (Cararye)	0.5 kg *(8.7%)*	80 %	175
Grain	Weyermann - Zakwaszający	0.25 kg *(4.3%)*	80 %	5

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum (2019 - PL)	25 g	60 min	10.5 %
Boil	Magnum (2019 - PL)	25 g	10 min	10.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Saflager W 34/70	Lager	Dry	11 g	Fermentis
Starter 1L wody + 80g jasnego ekstraktu słodowego suchego Bruntal na 24h w temperaturze pokojowej. Fermentacja 3 tygodnie w 10^{0}C				

Extras

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.

Type	Name	Amount	Use for	Time
Other	Łuska ryżowa	100 g	Boil	61 min
Dodane na całe zacieranie.				
Fining	Whirlfolck T	2 g	Boil	15 min
Jedna cała tabletka.				
Other	Askorbinian sodu	2 g	Bottling	---
Rozpuszczone w 100 ml wody.				

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