Groszkowe #3 - Polskie Pale Ale - Browar na Wyżynie

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **25**
- SRM **3.6**
- Style **Specialty Beer**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **6 %**
- Size with trub loss **24.4 liter(s)**
- Boil time **70 min**
- Evaporation rate **15 %/h**
- Boil size **28.9 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

Steps

- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **18.9 liter(s)** of **76C** water or to achieve **28.9 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	pilzneński Viking Malt	4 kg *(80%)*	81 %	4
Grain	pszeniczny Viking Malt	1 kg *(20%)*	84 %	5

Hops

Use for	Name	Amount	Time	Alpha acid
First Wort	Puławski (PL) - granulat	30 g	110 min	5.5 %
Aroma (end of boil)	Marynka (PL) - granulat	15 g	5 min	5.5 %
Aroma (end of boil)	Cascade (PL) - granulat	15 g	5 min	3.5 %
Aroma (end of boil)	Puławski (PL) - granulat	15 g	5 min	5.8 %
Whirlpool	Puławski (PL) - granulat	20 g	0 min	5.8 %
Whirlpool	Marynka (PL) - granulat	20 g	0 min	5.5 %
Whirlpool	Cascade (PL) - granulat	20 g	0 min	3.5 %

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

Dry Hop	Puławski (PL) - granulat	15 g	3 day(s)	5.8 %
Dry Hop	Marynka (PL) - granulat	15 g	3 day(s)	5.5 %
Dry Hop	Cascade (PL) - granulat	15 g	3 day(s)	3.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
US-05	Ale	Slant	300 ml	Danstar

Extras

Type	Name	Amount	Use for	Time
Water Agent	kwas fosforowy 75%	7 g	Boil	70 min
Fining	Mech irlandzki	1 g	Boil	15 min

Notes

- Profil wody:
  Ca+2 Mg+2 Na+ Cl- SO4-2 HCO Alkalinity Residual
  120.0 13.0 9.0 19.0 29.0 228.0 201.1 107.9

  SO42-/Cl- ratio: Cl- + SO42- concentration too low for meaningful ratio

  https://www.brewersfriend.com/mash-chemistry-and-brewing-water-calculator/?id=GXPJG7N
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