

Stout v5_gruszka #83

- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **54**
- SRM **36**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **20.7 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21.7 liter(s)**
- Boil time **105 min**
- Evaporation rate **12 %/h**
- Boil size **26.7 liter(s)**

Mash information

- Mash efficiency **79.5 %**
- Liquor-to-grist ratio **3.39 liter(s) / kg**
- Mash size **19.4 liter(s)**
- Total mash volume **25.2 liter(s)**

Steps

- Temp **66 C**, Time **45 min**
- Temp **72 C**, Time **30 min**
- Temp **75 C**, Time **7 min**

Mash step by step

- Heat up **19.4 liter(s)** of strike water to **72.8C**
- Add grains
- Keep mash **45 min** at **66C**
- Keep mash **30 min** at **72C**
- Keep mash **7 min** at **75C**
- Sparge using **13 liter(s)** of **76C** water or to achieve **26.7 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking - pilzneński	1 kg (16.6%)	80 %	4
Grain	Mep©Ale	3 kg (49.7%)	82.1 %	5.5
Grain	Viking - monachijski I	0.758 kg (12.6%)	79 %	16
Grain	Weyermann - Abbey	0.4 kg (6.6%)	75 %	45
Grain	Viking - karmelowy czerwony	0.024 kg (0.4%)	75 %	50
Grain	Fawcett - czekoladowy pszeniczny	0.2 kg (3.3%)	72.7 %	1000
Grain	Chateau - black	0.35 kg (5.8%)	73 %	1350
Adjunct	gruszka wędzona	0.3 kg (5%)	28 %	---

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Warrior	20 g	60 min	14.7 %
Aroma (end of boil)	Chinook PL	28 g	30 min	8.6 %
Aroma (end of boil)	Sybilla szyszka mokra	30 g	10 min	6 %
120 gr mokrej szyszki (mrożonej), ekwiwalent 30 gr suchej				

Yeasts

Name	Type	Form	Amount	Laboratory
FM54 Gorączka kalifornijska	Ale	Slant	170 ml	Fermentum Mobile

Extras

Type	Name	Amount	Use for	Time
Water Agent	gips	1.5 g	Mash	---
Water Agent	węglan wapnia	7 g	Mash	---
Water Agent	sól epsom	1 g	Mash	---
Water Agent	kwask mlekowy [ml]	3.03 g	Mash	---
Water Agent	chlorek wapnia [ml]	0 g	Mash	---
Fining	mech irlandzki	3 g	Boil	10 min
Flavor	gruszka wędzona	300 g	Boil	10 min