

## 19# po ris-owy stout

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **33**
- SRM **24.5**

### Batch size

- Expected quantity of finished beer **18 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **23.8 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **7.2 liter(s)**
- Total mash volume **9.6 liter(s)**

### Steps

- Temp **68 C**, Time **80 min**
- Temp **70 C**, Time **10 min**

### Mash step by step

- Heat up **7.2 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **80 min** at **68C**
- Keep mash **10 min** at **70C**
- Sparge using **19 liter(s)** of **76C** water or to achieve **23.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Liquid Extract	WES ekstrakt słodowy jasny	1.7 kg (41.5%)	80 %	25
Grain	wysłodziny po 18#ris	2.4 kg (58.5%)	80 %	150

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Puławski	10 g	60 min	8.9 %
Boil	Warrior	5 g	60 min	15.5 %
Boil	Cascade PL	20 g	30 min	5.2 %
Boil	Cascade	15 g	15 min	6 %
Aroma (end of boil)	ekuanot	25 g	0 min	14 %
Aroma (end of boil)	Cascade	25 g	0 min	6 %
Dry Hop	ekuanot	25 g	3 day(s)	14 %
Dry Hop	Cascade	25 g	---	6 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11 g	Fermentis

## Notes

- Wysłodzone 21 litrów brzezki po 18#Ris o ekstrakcie 7,1blg, dodano ekstrakt słodowy. Po 60min. gotowania uzyskano 18l o ekstrakcie 12,9blg  
*Jul 19, 2020, 11:54 AM*