

## Groszkowe #9 (Książęcy) - Browar na Wyżynie

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **43**
- SRM **7.3**
- Style **Specialty Beer**

### Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **4 %**
- Size with trub loss **23.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **26.8 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

### Steps

- Temp **66 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **5 min**

### Mash step by step

- Heat up **15 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **45 min** at **66C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **16.8 liter(s)** of **76C** water or to achieve **26.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	pilzneński Viking Malt	3 kg (60%)	80 %	4
Grain	diastatyczny jęczmienny Weyermann®	1 kg (20%)	80 %	4
Grain	pszeniczny jasny Bestmaltz	0.5 kg (10%)	82 %	4
Grain	Arome Castle Malting	0.5 kg (10%)	78 %	100

### Hops

Use for	Name	Amount	Time	Alpha acid
First Wort	Książęcy (Polishhops) - granulát	30 g	100 min	8.5 %
Boil	Książęcy (Polishhops) - granulát	20 g	20 min	8.5 %
Whirlpool	Książęcy (Polishhops) - granulát	50 g	0 min	8.5 %

Dry Hop	Książęcy (Polishhops) - granulata	100 g	3 day(s)	8.5 %
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### Yeasts

Name	Type	Form	Amount	Laboratory
FM52 Amerykański Sen	Ale	Slant	300 ml	Fermentum Mobile

### Extras

Type	Name	Amount	Use for	Time
Water Agent	siarczan wapnia	6 g	Mash	60 min
Water Agent	chlorek wapnia	4 g	Mash	60 min
Water Agent	kwasa fosforowego 75% zacier	4 g	Mash	60 min
Water Agent	kwasa fosforowego 75% wysładzanie	2 g	Mash	60 min
Fining	Mech irlandzki	2 g	Boil	15 min
Other	siarczan cynku	2 g	Boil	0 min