

## 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 % |
|---------|-----------------------------------|-------|----------|-------|

### 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  |