

Piernikowate święta

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **6**
- SRM **11.6**
- Style **Christmas/Winter Specialty Spiced Beer**

Batch size

- Expected quantity of finished beer **30 liter(s)**
- Trub loss **2 %**
- Size with trub loss **30.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **32.8 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **2.7 liter(s) / kg**
- Mash size **18 liter(s)**
- Total mash volume **24.6 liter(s)**

Steps

- Temp **63 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **18 liter(s)** of strike water to **70.9C**
- Add grains
- Keep mash **40 min** at **63C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **21.5 liter(s)** of **76C** water or to achieve **32.8 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-------------------------|-----------------|-------|-----|
| Grain | Pilzneński | 2.25 kg (33.8%) | 81 % | 4 |
| Grain | Briess - Pale Ale Malt | 2.1 kg (31.6%) | 80 % | 7 |
| Grain | Monachijski | 1.3 kg (19.5%) | 80 % | 16 |
| Grain | Strzegom Bursztynowy | 0.85 kg (12.8%) | 70 % | 49 |
| Grain | Briess - Chocolate Malt | 0.15 kg (2.3%) | 60 % | 690 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-------------|--------|--------|------------|
| Boil | Hersbrucker | 15 g | 60 min | 3 % |
| Boil | Tettnang | 10 g | 30 min | 4 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-33 | Ale | Dry | 11 g | Fermentis |

Extras

| Type | Name | Amount | Use for | Time |
|-------|--------------------|--------|---------|--------|
| Spice | imbir | 10 g | Boil | 10 min |
| Spice | cynamion | 5 g | Boil | 10 min |
| Spice | kolendra | 10 g | Boil | 10 min |
| Spice | goździki | 10 g | Boil | 10 min |
| Spice | gałka muszkatałowa | 10 g | Boil | 10 min |
| Spice | ziele angielskie | 10 g | Boil | 10 min |