

# BirthdayGirl

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **13**
- SRM **4.7**
- Style **Witbier**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **70 min**
- Evaporation rate **15 %/h**
- Boil size **28.2 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12 liter(s)**
- Total mash volume **16 liter(s)**

## Steps

- Temp **44 C**, Time **60 min**
- Temp **69 C**, Time **80 min**
- Temp **77 C**, Time **0 min**

## Mash step by step

- Heat up **12 liter(s)** of strike water to **48C**
- Add grains
- Keep mash **60 min** at **44C**
- Keep mash **80 min** at **69C**
- Keep mash **0 min** at **77C**
- Sparge using **20.2 liter(s)** of **76C** water or to achieve **28.2 liter(s)** of wort

## Fermentables

| Type    | Name                        | Amount          | Yield | EBC |
|---------|-----------------------------|-----------------|-------|-----|
| Grain   | Abbey Malt Weyermann        | 0.33 kg (7.5%)  | 75 %  | 45  |
| Grain   | Słód Owsiany Castle Malting | 0.33 kg (7.5%)  | 75 %  | 3   |
| Grain   | Weyermann - Pilsner Malt    | 1.33 kg (30.3%) | 81 %  | 5   |
| Grain   | Weyermann - Pale Wheat Malt | 2 kg (45.6%)    | 85 %  | 5   |
| Adjunct | Płatki owsiane              | 0.4 kg (9.1%)   | 85 %  | 3   |

## Hops

| Use for             | Name            | Amount  | Time   | Alpha acid |
|---------------------|-----------------|---------|--------|------------|
| Boil                | Motueka         | 13.33 g | 20 min | 6.6 %      |
| Boil                | Motueka         | 13.33 g | 10 min | 6.6 %      |
| Boil                | Trawa cytrynowa | 13.33 g | 5 min  | 1 %        |
| Aroma (end of boil) | Motueka         | 26.67 g | 5 min  | 6.6 %      |
| Whirlpool           | Motueka         | 40 g    | 0 min  | 6.6 %      |

## Yeasts

| Name                            | Type  | Form | Amount  | Laboratory |
|---------------------------------|-------|------|---------|------------|
| Gozdawa Classic Belgian Witbier | Wheat | Dry  | 13.33 g | Gozdawa    |

### Extras

| Type   | Name                        | Amount | Use for | Time   |
|--------|-----------------------------|--------|---------|--------|
| Spice  | kolendra                    | 10 g   | Boil    | 5 min  |
| Flavor | skórka z pomarańczy suszona | 20 g   | Boil    | 10 min |
| Flavor | skórka z cytryny suszona    | 10 g   | Boil    | 5 min  |
| Flavor | skórka z pomarańczy świeża  | 10 g   | Boil    | 10 min |