

Kłos

- Gravity **11.7 BLG**
- ABV ---
- IBU **23**
- SRM **4.1**
- Style **American Wheat or Rye Beer**

Batch size

- Expected quantity of finished beer **30 liter(s)**
- Trub loss **5 %**
- Size with trub loss **31.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **38 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.3 liter(s)**
- Total mash volume **24.4 liter(s)**

Steps

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

Mash step by step

- Heat up **18.3 liter(s)** of strike water to **70.2C**
- Add grains
- Keep mash **40 min** at **63C**
- Keep mash **20 min** at **72C**
- Sparge using **25.8 liter(s)** of **76C** water or to achieve **38 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|---------------|-------|-----|
| Grain | Viking Pale Ale malt | 3 kg (49.2%) | 80 % | 5 |
| Grain | Pszeniczny | 3 kg (49.2%) | 85 % | 4 |
| Grain | Płatki owsiane | 0.1 kg (1.6%) | 85 % | 3 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------------|--------|-----------|------------|
| Boil | Topaz | 10 g | 60 min | 15 % |
| Boil | Topaz | 20 g | 10 min | 15 % |
| Boil | Rakau (NZ) | 10 g | 5 min | 9.5 % |
| Dry Hop | Rakau (NZ) | 25 g | 14 day(s) | 9.5 % |
| Dry Hop | Rakau (NZ) | 25 g | 7 day(s) | 9.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------------|-------|------|--------|------------|
| Bavarian Wheat 11 | Wheat | Dry | 11.5 g | Gozdawa |