

# Żytni lager

- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **22**
- SRM **10.7**
- Style **Roggenbier**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **22.8 liter(s)**
- Total mash volume **28.5 liter(s)**

## Steps

- Temp **62 C**, Time **30 min**
- Temp **72 C**, Time **40 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **22.8 liter(s)** of strike water to **67.3C**
- Add grains
- Keep mash **30 min** at **62C**
- Keep mash **40 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **9.3 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

## Fermentables

| Type  | Name                  | Amount        | Yield | EBC |
|-------|-----------------------|---------------|-------|-----|
| Grain | Viking Pale Ale malt  | 3 kg (52.6%)  | 80 %  | 5   |
| Grain | Żytni                 | 2 kg (35.1%)  | 85 %  | 8   |
| Grain | Weyermann Specjal W   | 0.3 kg (5.3%) | 68 %  | 300 |
| Grain | Płatki owsiane        | 0.2 kg (3.5%) | 60 %  | 3   |
| Grain | Karmelowy Jasny 30EBC | 0.2 kg (3.5%) | 75 %  | 30  |

## Hops

| Use for | Name  | Amount | Time   | Alpha acid |
|---------|-------|--------|--------|------------|
| Boil    | lunga | 20 g   | 60 min | 11 %       |

## Yeasts

| Name           | Type  | Form  | Amount | Laboratory |
|----------------|-------|-------|--------|------------|
| Bavarian lager | Lager | Slant | 270 ml | ---        |