

# Roggen

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **14**
- SRM **12.8**
- Style **Roggenbier**

## Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **5 %**
- Size with trub loss **10.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **20 %/h**
- Boil size **13.2 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **10.4 liter(s)**
- Total mash volume **13 liter(s)**

## Steps

- Temp **72 C**, Time **60 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **10.4 liter(s)** of strike water to **78.5C**
- Add grains
- Keep mash **60 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **5.4 liter(s)** of **76C** water or to achieve **13.2 liter(s)** of wort

## Fermentables

| Type  | Name           | Amount         | Yield  | EBC |
|-------|----------------|----------------|--------|-----|
| Grain | Żytni          | 1 kg (38.5%)   | 85 %   | 8   |
| Grain | Pszeniczny     | 1 kg (38.5%)   | 85 %   | 4   |
| Grain | Special B Malt | 0.2 kg (7.7%)  | 65.2 % | 315 |
| Grain | Rye, Flaked    | 0.4 kg (15.4%) | 78.3 % | 4   |

## Hops

| Use for | Name                    | Amount | Time   | Alpha acid |
|---------|-------------------------|--------|--------|------------|
| Boil    | Hallertau Mittelfruh'19 | 13.4 g | 60 min | 4.7 %      |

## Yeasts

| Name                   | Type  | Form  | Amount | Laboratory       |
|------------------------|-------|-------|--------|------------------|
| FM41 Gwoździe i Banany | Wheat | Slant | 100 ml | Fermentum Mobile |

## Extras

| Type        | Name         | Amount | Use for | Time   |
|-------------|--------------|--------|---------|--------|
| Water Agent | Łuska ryżowa | 100 g  | Mash    | 60 min |

## Notes

- Kwas mlekowy do wyśładzania - 2ml/12l  
*Nov 13, 2021, 11:29 AM*