

# Bière du Žur

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **8**
- SRM **6.3**

## Batch size

- Expected quantity of finished beer **13 liter(s)**
- Trub loss **15 %**
- Size with trub loss **14.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **18.6 liter(s)**

## Mash information

- Mash efficiency **60 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.2 liter(s)**
- Total mash volume **17.6 liter(s)**

## Steps

- Temp **45 C**, Time **10 min**
- Temp **65 C**, Time **45 min**
- Temp **72 C**, Time **10 min**
- Temp **77 C**, Time **5 min**

## Mash step by step

- Heat up **13.2 liter(s)** of strike water to **49.2C**
- Add grains
- Keep mash **10 min** at **45C**
- Keep mash **45 min** at **65C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **77C**
- Sparge using **9.8 liter(s)** of **76C** water or to achieve **18.6 liter(s)** of wort

## Fermentables

| Type      | Name                    | Amount        | Yield  | EBC |
|-----------|-------------------------|---------------|--------|-----|
| Grain     | Żytni Viking Malt       | 2 kg (45.5%)  | 85 %   | 8   |
| Grain     | Wędzony bukiem Bestmalz | 2 kg (45.5%)  | 82 %   | 10  |
| Steinbach |                         |               |        |     |
| Grain     | Rye, Flaked             | 0.4 kg (9.1%) | 78.3 % | 4   |

## Hops

| Use for             | Name              | Amount | Time   | Alpha acid |
|---------------------|-------------------|--------|--------|------------|
| Boil                | Lublin (Lubelski) | 10 g   | 60 min | 4.3 %      |
| Boil                | Lublin (Lubelski) | 10 g   | 5 min  | 4.3 %      |
| Aroma (end of boil) | Lublin (Lubelski) | 10 g   | 0 min  | 4.3 %      |

## Yeasts

| Name  | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| Us-05 | Ale  | Dry  | 11.5 g | ---        |

## Extras

| Type        | Name                                                                                                                         | Amount | Use for | Time   |
|-------------|------------------------------------------------------------------------------------------------------------------------------|--------|---------|--------|
| Flavor      | Sól, czosnek, cebula, majeranek, pieprz czarny, marchew, liście laurowe, pasternak, ziele angielskie, koperek, liście selera | 15 g   | Boil    | 5 min  |
| Water Agent | chlerek wapnia                                                                                                               | 5 g    | Boil    | 60 min |
| Water Agent | epsom                                                                                                                        | 1 g    | Boil    | 60 min |