

# Żytni brown porter

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **19**
- SRM **17.5**
- Style **Brown Porter**

## Batch size

- Expected quantity of finished beer **18 liter(s)**
- Trub loss **5 %**
- Size with trub loss **18.9 liter(s)**
- Boil time **65 min**
- Evaporation rate **15 %/h**
- Boil size **24.1 liter(s)**

## Mash information

- Mash efficiency **65 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.5 liter(s)**
- Total mash volume **18 liter(s)**

## Steps

- Temp **68 C**, Time **60 min**
- Temp **76 C**, Time **0 min**

## Mash step by step

- Heat up **13.5 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **0 min** at **76C**
- Sparge using **15.1 liter(s)** of **76C** water or to achieve **24.1 liter(s)** of wort

## Fermentables

| Type  | Name                 | Amount         | Yield | EBC |
|-------|----------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt | 3.6 kg (80%)   | 80 %  | 5   |
| Grain | Caraaroma            | 0.3 kg (6.7%)  | 78 %  | 400 |
| Grain | Carafa Special I     | 0.1 kg (2.2%)  | 70 %  | 900 |
| Grain | Żytni                | 0.5 kg (11.1%) | 85 %  | 8   |

## Hops

| Use for             | Name            | Amount | Time   | Alpha acid |
|---------------------|-----------------|--------|--------|------------|
| Boil                | English Golding | 20 g   | 60 min | 4.8 %      |
| Boil                | English Golding | 10 g   | 15 min | 4.8 %      |
| Aroma (end of boil) | Willamette      | 30 g   | 5 min  | 5 %        |

## Yeasts

| Name        | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale  | Dry  | 11.5 g | Safale     |

## Notes

- carafa special 1 przed wygrzewem  
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