# 1lvl drożdży Gorzko i wytrawnie :3 ale i nowocześnie

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- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **39**
- SRM **4.6**
- Style **German Pilsner (Pils)**

## Batch size

- Expected quantity of finished beer **18 liter(s)**
- Trub loss **5 %**
- Size with trub loss **18.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **22.8 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.9 liter(s)**
- Total mash volume **21.2 liter(s)**

## Steps

- Temp **66 C**, Time **24 min**
- Temp **72 C**, Time **35 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **15.9 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **24 min** at **66C**
- Keep mash **35 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **12.2 liter(s)** of **76C** water or to achieve **22.8 liter(s)** of wort

## Fermentables

| Type | Name | Amount | Yield | EBC |
|---|---|---|---|---|
| Grain | Rahr - Premium Pilsner Malt | 5 kg *(94.3%)* | 80 % | 4 |
| Grain | Castlemalting - Cara Clair | 0.2 kg *(3.8%)* | 78 % | 4 |
| Grain | Cara Ruby Castle | 0.1 kg *(1.9%)* | 72 % | 49 |

## Hops

| Use for | Name | Amount | Time | Alpha acid |
|---|---|---|---|---|
| Boil | Citra | 15 g | 60 min | 12.7 % |
| Boil | Citra | 10 g | 20 min | 12 % |
| Boil | Citra | 25 g | 5 min | 12 % |
| Mash | Citra | 10 g | 60 min | 12 % |
| Whirlpool | Citra | 40 g | 1 min | 12 % |

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.