

# Hacker

- Gravity **10.5 BLG**
- ABV **4.2 %**
- IBU **20**
- SRM **9.7**
- Style **Flanders Red Ale**

## Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **10 %**
- Size with trub loss **16.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **19.8 liter(s)**

## Mash information

- Mash efficiency **65 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **13.4 liter(s)**
- Total mash volume **17.2 liter(s)**

## Steps

- Temp **62 C**, Time **50 min**
- Temp **72 C**, Time **10 min**

## Mash step by step

- Heat up **13.4 liter(s)** of strike water to **68C**
- Add grains
- Keep mash **50 min** at **62C**
- Keep mash **10 min** at **72C**
- Sparge using **10.2 liter(s)** of **76C** water or to achieve **19.8 liter(s)** of wort

## Fermentables

| Type  | Name                  | Amount         | Yield | EBC |
|-------|-----------------------|----------------|-------|-----|
| Grain | Castle Pale Ale       | 3 kg (78.3%)   | 80 %  | 8   |
| Grain | Rahr - Red Wheat Malt | 0.3 kg (7.8%)  | 85 %  | 89  |
| Grain | Weyermann - Carapils  | 0.2 kg (5.2%)  | 78 %  | 4   |
| Grain | Jęczmień palony       | 0.03 kg (0.8%) | 55 %  | 985 |
| Grain | Płatki owsiane        | 0.3 kg (7.8%)  | 60 %  | 3   |

## Hops

| Use for             | Name              | Amount | Time   | Alpha acid |
|---------------------|-------------------|--------|--------|------------|
| Boil                | Lublin (Lubelski) | 20 g   | 40 min | 4 %        |
| Boil                | El Dorado         | 12 g   | 10 min | 13.6 %     |
| Aroma (end of boil) | Lublin (Lubelski) | 20 g   | 1 min  | 4 %        |

## Yeasts

| Name         | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale US-05 | Ale  | Dry  | 11.5 g | Fermentis  |

## Extras

| Type        | Name             | Amount | Use for | Time   |
|-------------|------------------|--------|---------|--------|
| Flavor      | Hibiskus suszony | 15 g   | Boil    | 5 min  |
| Fining      | Mech Irlandzki   | 5 g    | Boil    | 5 min  |
| Water Agent | Gips Piwowarski  | 3 g    | Mash    | 60 min |
| Other       | Witamina C       | 5 g    | Boil    | 60 min |