

# Klon Miłośław bezalkoholowy

- Gravity **6.3 BLG**
- ABV **2.4 %**
- IBU **25**
- SRM **2.3**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **5 liter(s) / kg**
- Mash size **13.1 liter(s)**
- Total mash volume **15.7 liter(s)**

## Steps

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

## Mash step by step

- Heat up **13.1 liter(s)** of strike water to **77.2C**
- Add grains
- Keep mash **60 min** at **72C**
- Sparge using **18.5 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

## Fermentables

| Type  | Name                 | Amount          | Yield  | EBC |
|-------|----------------------|-----------------|--------|-----|
| Grain | Viking Pale Ale malt | 0.77 kg (29.4%) | 80 %   | 5.5 |
| Grain | Viking Pilsner malt  | 0.77 kg (29.4%) | 82 %   | 4   |
| Grain | Viking Wheat Malt    | 0.77 kg (29.4%) | 83 %   | 5   |
| Grain | Rye, Flaked          | 0.31 kg (11.8%) | 78.3 % | 4   |

## Hops

| Use for   | Name     | Amount  | Time     | Alpha acid |
|-----------|----------|---------|----------|------------|
| Boil      | Warrior  | 3.83 g  | 60 min   | 14.7 %     |
| Boil      | Citra    | 19.17 g | 10 min   | 13.5 %     |
| Boil      | Amarillo | 19.17 g | 10 min   | 8.7 %      |
| Whirlpool | Citra    | 19.17 g | 0 min    | 13.5 %     |
| Whirlpool | Amarillo | 19.17 g | 0 min    | 8.7 %      |
| Dry Hop   | Citra    | 38.33 g | 4 day(s) | 13.5 %     |
| Dry Hop   | Amarillo | 38.33 g | 4 day(s) | 8.7 %      |

## Yeasts

| Name            | Type | Form | Amount | Laboratory |
|-----------------|------|------|--------|------------|
| Fermentis US-05 | Ale  | Dry  | 8.82 g | Fermentis  |

## Extras

| Type   | Name                       | Amount  | Use for | Time   |
|--------|----------------------------|---------|---------|--------|
| Fining | whirflock                  | 0.38 g  | Boil    | 15 min |
| Flavor | skórka suszonej bergamotki | 15.33 g | Boil    | 15 min |