

# Milkshake z porzeczką

- Gravity **15.9 BLG**
- ABV **6.7 %**
- IBU **33**
- SRM **4**
- Style **American IPA**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **12.5 liter(s)**
- Total mash volume **17.5 liter(s)**

## Steps

- Temp **68 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **76 C**, Time **1 min**

## Mash step by step

- Heat up **12.5 liter(s)** of strike water to **77.6C**
- Add grains
- Keep mash **45 min** at **68C**
- Keep mash **15 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **17.8 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

| Type  | Name                 | Amount        | Yield  | EBC |
|-------|----------------------|---------------|--------|-----|
| Grain | Viking Pale Ale malt | 4 kg (66.7%)  | 80 %   | 5   |
| Grain | Płatki pszeniczne    | 0.5 kg (8.3%) | 85 %   | 3   |
| Grain | Płatki owsiane       | 0.5 kg (8.3%) | 85 %   | 3   |
| Sugar | Milk Sugar (Lactose) | 1 kg (16.7%)  | 76.1 % | 0   |

## Hops

| Use for | Name    | Amount | Time   | Alpha acid |
|---------|---------|--------|--------|------------|
| Boil    | lunga   | 30 g   | 45 min | 11 %       |
| Boil    | Sybilla | 50 g   | 5 min  | 3.5 %      |

## Yeasts

| Name         | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale US-05 | Ale  | Dry  | 11 g   | Fermentis  |

## Extras

| Type   | Name             | Amount | Use for   | Time     |
|--------|------------------|--------|-----------|----------|
| Flavor | czarna porzeczka | 1000 g | Secondary | 5 day(s) |