

Hoppy sour ale

- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **5**
- SRM **4.2**
- Style **Berliner Weisse**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **32.2 liter(s)**

Mash information

- Mash efficiency **73 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **22.5 liter(s)**
- Total mash volume **30 liter(s)**

Steps

- Temp **62 C**, Time **45 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **1 min**

Mash step by step

- Heat up **22.5 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **45 min** at **62C**
- Keep mash **30 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **17.2 liter(s)** of **76C** water or to achieve **32.2 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|----------------|-------|-----|
| Grain | Strzegom Pilzneński | 5.5 kg (73.3%) | 80 % | 4 |
| Grain | Słód owsiany Fawcett | 1 kg (13.3%) | 61 % | 5 |
| Grain | Płatki pszeniczne | 0.5 kg (6.7%) | 60 % | 3 |
| Grain | Płatki owsiane | 0.5 kg (6.7%) | 60 % | 3 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|-----------|-----------------|--------|----------|------------|
| Boil | lunga | 5 g | 60 min | 11 % |
| Whirlpool | Sabro | 100 g | 0 min | 15 % |
| Dry Hop | Wai-iti | 100 g | 2 day(s) | 4.1 % |
| Dry Hop | Michigan Copper | 100 g | 2 day(s) | 8.5 % |
| Dry Hop | Mackinac | 100 g | 2 day(s) | 10 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------------------------|------|-------|--------|-----------------|
| Mangrove Jack's M12 Voss Kveik | Ale | Slant | 200 ml | Mangrove Jack's |

Extras

| Type | Name | Amount | Use for | Time |
|-------------|-------------------|--------|---------|-------|
| Water Agent | kwask mlekowy | 5.3 g | Mash | 0 min |
| Water Agent | sól Epsom | 0.5 g | Mash | 0 min |
| Water Agent | CaCl ₂ | 7.5 g | Mash | 0 min |
| Water Agent | Kwas mlekowy | 4.2 g | Boil | 0 min |

Notes

- zacieranie przy pH 5,3
 - sole do zacierania
 - przed zakwaszaniem zbicie pH do 4,2
 - zakwaszanie L. plantarum przez jakieś 12-18h (6 tabletek)
 - gotowanie z chmielem
 - chmiel na hopstand
 - fermentacja: 30-36°C
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