

APA

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **61**
- SRM **3.5**
- Style **American IPA**

Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **10 %**
- Size with trub loss **25.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **30 liter(s)**

Mash information

- Mash efficiency **77 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **22 liter(s)**

Steps

- Temp **55 C**, Time **5 min**
- Temp **66 C**, Time **45 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **16.5 liter(s)** of strike water to **60.8C**
- Add grains
- Keep mash **5 min** at **55C**
- Keep mash **45 min** at **66C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **19 liter(s)** of **76C** water or to achieve **30 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|---------------|-------|-----|
| Grain | Viking Pilsner malt | 5 kg (90.9%) | 82 % | 4 |
| Grain | Weyermann - Carapils | 0.5 kg (9.1%) | 78 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|-----------|------------------------|--------|----------|------------|
| Boil | Columbus/Tomahawk/Zeus | 25 g | 60 min | 15.5 % |
| Whirlpool | Mosaic Cryo | 25 g | 15 min | 21.3 % |
| Whirlpool | Idaho 7 Cryo | 25 g | 15 min | 20.1 % |
| Dry Hop | Mosaic Cryo | 70 g | 4 day(s) | 21.3 % |
| Dry Hop | Idaho 7 Cryo | 70 g | 4 day(s) | 20.1 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|---------------------|------|-------|--------|------------|
| Lutra OYL-071 | Ale | Dry | 11 g | Omega |
| Blend TorbbedGarden | Ale | Slant | 50 ml | --- |

Extras

| Type | Name | Amount | Use for | Time |
|-------------|------------------|--------|---------|--------|
| Water Agent | Gips piwowarski | 11 g | Mash | 60 min |
| Water Agent | Epsom | 2 g | Mash | 60 min |
| Water Agent | CaCl | 3 g | Mash | 60 min |
| Water Agent | Kwas mlekowy 80% | 5 g | Mash | 60 min |
| Water Agent | Enzym | 2 g | Mash | 60 min |
| Water Agent | Whirflock | 4 g | Boil | 10 min |

Notes

- Profil wody (Chmielowy):Ca-98.7/Mg-9.1/Na-4/Cl-42.6/SO4-196.6/HCO3-41/
2ml enzymu do zacierania,
Kwas mlekowy do korekty pH zacieru (5.3) i pH brzeczki nastawnej (5.1)
Whirflock na ostatnie 10 minut gotowania, cała tabletk.
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