

Pale ale columbus

- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **23**
- SRM **5.2**
- Style **American IPA**

Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.5 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.6 liter(s)**
- Total mash volume **24.8 liter(s)**

Steps

- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **20 min**

Mash step by step

- Heat up **18.6 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **40 min** at **64C**
- Keep mash **20 min** at **72C**
- Sparge using **14.1 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|---------------|-------|-----|
| Grain | Viking Pale Ale malt | 6 kg (96.8%) | 80 % | 5 |
| Grain | Melanoiden Malt | 0.2 kg (3.2%) | 80 % | 39 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------------------|--------|--------|------------|
| Boil | Columbus/Tomahawk/Zeus | 15 g | 60 min | 15.5 % |
| Aroma (end of boil) | Columbus/Tomahawk/Zeus | 30 g | 0 min | 15.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------|------|-------|--------|------------|
| Safale US-05 | Ale | Slant | 300 ml | --- |

Extras

| Type | Name | Amount | Use for | Time |
|--------|------------|--------|---------|--------|
| Fining | Irish moss | 4 g | Boil | 15 min |