

## Manhattan APA old

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- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **54**
- SRM **5.3**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **170 liter(s)**
- Trub loss **5 %**
- Size with trub loss **178.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **205.3 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **133.5 liter(s)**
- Total mash volume **178 liter(s)**

### Steps

- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **10 min**

### Mash step by step

- Heat up **133.5 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **72C**
- Sparge using **116.3 liter(s)** of **76C** water or to achieve **205.3 liter(s)** of wort

### Fermentables

| Type  | Name                        | Amount        | Yield  | EBC |
|-------|-----------------------------|---------------|--------|-----|
| Grain | Viking Pale Ale malt        | 25 kg (56.2%) | 80 %   | 5   |
| Grain | Strzegom Pszeniczny         | 5 kg (11.2%)  | 81 %   | 6   |
| Grain | Strzegom Pilzneński         | 5 kg (11.2%)  | 80 %   | 4   |
| Grain | Strzegom Monachijski typ II | 4 kg (9%)     | 79 %   | 22  |
| Grain | Karmelowy Jasny 30EBC       | 2 kg (4.5%)   | 75 %   | 30  |
| Grain | Acid Malt                   | 0.5 kg (1.1%) | 58.7 % | 6   |
| Grain | Płatki owsiane              | 3 kg (6.7%)   | 60 %   | 3   |

### Hops

| Use for   | Name       | Amount | Time     | Alpha acid |
|-----------|------------|--------|----------|------------|
| Boil      | Magnum     | 100 g  | 60 min   | 11.5 %     |
| Boil      | Mosaic     | 50 g   | 30 min   | 12 %       |
| Whirlpool | Simcoe     | 100 g  | 30 min   | 13.2 %     |
| Whirlpool | Amarillo   | 100 g  | 30 min   | 8.8 %      |
| Dry Hop   | Centennial | 200 g  | 7 day(s) | 9.4 %      |
| Dry Hop   | Waimea     | 200 g  | 7 day(s) | 17 %       |
| Whirlpool | Citra      | 100 g  | 30 min   | 12 %       |

|           |        |       |          |        |
|-----------|--------|-------|----------|--------|
| Dry Hop   | Citra  | 100 g | 7 day(s) | 13.5 % |
| Whirlpool | Waimea | 200 g | 30 min   | 17 %   |

## Yeasts

| Name            | Type | Form    | Amount | Laboratory |
|-----------------|------|---------|--------|------------|
| Fermentis US-05 | Ale  | Culture | 200 g  | Safale     |

## Notes

- Whirlpool: 10 minut 95°C, 10 minut 75°C, 10 minut 65°C  
zamiast magnum columbus, zamiast waimea wai-iti i Motueka  
*Feb 25, 2022, 10:59 AM*