

# Mango milkshake IPA

- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **65**
- SRM **4.3**
- Style **American IPA**

## Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.6 liter(s)**
- Total mash volume **24.8 liter(s)**

## Steps

- Temp **67 C**, Time **60 min**
- Temp **75 C**, Time **5 min**

## Mash step by step

- Heat up **18.6 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **5 min** at **75C**
- Sparge using **15.4 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

## Fermentables

| Type  | Name                 | Amount          | Yield  | EBC |
|-------|----------------------|-----------------|--------|-----|
| Grain | Viking Pale Ale malt | 5 kg (73.3%)    | 80 %   | 5   |
| Grain | Płatki owsiane       | 0.6 kg (8.8%)   | 85 %   | 3   |
| Grain | Płatki pszeniczne    | 0.6 kg (8.8%)   | 85 %   | 3   |
| Sugar | Milk Sugar (Lactose) | 0.625 kg (9.2%) | 76.1 % | 0   |

## Hops

| Use for             | Name                   | Amount | Time     | Alpha acid |
|---------------------|------------------------|--------|----------|------------|
| Boil                | Columbus/Tomahawk/Zeus | 30 g   | 60 min   | 15.5 %     |
| Aroma (end of boil) | Citra                  | 15 g   | 10 min   | 12 %       |
| Aroma (end of boil) | Mosaic                 | 10 g   | 10 min   | 10 %       |
| Whirlpool           | Equinox                | 30 g   | 20 min   | 13.1 %     |
| Whirlpool           | Mosaic                 | 20 g   | 20 min   | 10 %       |
| Dry Hop             | Citra                  | 40 g   | 4 day(s) | 12 %       |
| Dry Hop             | Mosaic                 | 30 g   | 4 day(s) | 10 %       |

## Yeasts

| Name         | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale US-05 | Ale  | Dry  | 11.5 g | Fermentis  |

## Extras

| Type   | Name                                     | Amount | Use for   | Time      |
|--------|--|--------|-----------|-----------|
| Flavor | Pulpa z mango bez dodatku cukru 3 puszki | 2350 g | Secondary | 14 day(s) |

## Notes

- Chmielenie oznaczone jako Whirlpool to tak naprawdę Hop Stand - schłodzenie brzeczki do 75C i przetrzymanie chmielu ( mieszając ) przez 20 minut. Następnie schłodzenie do temperatury zadania drożdży.  
Goryczka sumarycznie wyjdzie 7-8 IBU mniej niż podaje kalkulator.  
*Apr 22, 2020, 2:40 PM*