

# MANGARANGO

- Gravity **10 BLG**
- ABV **4 %**
- IBU **22**
- SRM **3.1**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.4 liter(s) / kg**
- Mash size **14.3 liter(s)**
- Total mash volume **18.5 liter(s)**

## Steps

- Temp **69 C**, Time **90 min**
- Temp **78 C**, Time **15 min**

## Mash step by step

- Heat up **14.3 liter(s)** of strike water to **76.2C**
- Add grains
- Keep mash **90 min** at **69C**
- Keep mash **15 min** at **78C**
- Sparge using **15.2 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

| Type  | Name          | Amount        | Yield | EBC |
|-------|---------------|---------------|-------|-----|
| Grain | Pilznieński   | 2 kg (47.6%)  | 81 %  | 4   |
| Grain | Pszeniczny    | 1 kg (23.8%)  | 85 %  | 4   |
| Grain | Oats, Flaked  | 1 kg (23.8%)  | 80 %  | 2   |
| Grain | Wheat, Flaked | 0.2 kg (4.8%) | 77 %  | 4   |

## Hops

| Use for | Name       | Amount | Time   | Alpha acid |
|---------|------------|--------|--------|------------|
| Boil    | Citra      | 10 g   | 15 min | 12 %       |
| Boil    | Centennial | 10 g   | 15 min | 10.5 %     |
| Boil    | Citra      | 15 g   | 5 min  | 12 %       |
| Boil    | Centennial | 15 g   | 5 min  | 10.5 %     |

## 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 | 500 g  | Secondary | 5 day(s) |