

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	Pilzneński	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)