Guarana Milkshake IPA

- Gravity **18.2 BLG**
- ABV **7.8 %**
- IBU **43**
- SRM **4.7**
- Style **American IPA**

Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **13.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **15.8 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **13.9 liter(s)**
- Total mash volume **17.8 liter(s)**

Steps

- Temp **67 C**, Time **90 min**
- Temp **78 C**, Time **15 min**

Mash step by step

- Heat up **13.9 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **90 min** at **67C**
- Keep mash **15 min** at **78C**
- Sparge using **5.9 liter(s)** of **76C** water or to achieve **15.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3 kg *(70.4%)*	80 %	5
Grain	Pszeniczny	0.3 kg *(7%)*	85 %	4
Grain	Weyermann - Carapils	0.15 kg *(3.5%)*	78 %	4
Grain	Oats, Flaked	0.26 kg *(6.1%)*	80 %	2
Grain	Wheat, Flaked	0.25 kg *(5.9%)*	77 %	4
Sugar	Milk Sugar (Lactose)	0.3 kg *(7%)*	76.1 %	0

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	8 g	60 min	12.4 %
Boil	Mosaic	5 g	60 min	12 %
Aroma (end of boil)	Mosaic	10 g	15 min	12 %
Aroma (end of boil)	Simcoe	5.5 g	15 min	13.2 %
Aroma (end of boil)	Citra	5 g	15 min	13.7 %
Aroma (end of boil)	Cascade	5 g	15 min	7.1 %
Dry Hop	Mosaic	10 g	3 day(s)	12 %
Dry Hop	Citra	10 g	3 day(s)	13.7 %

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Dry Hop	Cascade	10 g	3 day(s)	7.1 %

Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's -M15 Empire Ale	Ale	Dry	11 g	Mangrove Jack's

Extras

Type	Name	Amount	Use for	Time
Flavor	Guarana pulpa	450 g	Secondary	10 day(s)
Water Agent	gips piwowarski	1.5 g	Boil	105 min

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