BRO #002.ver.2.3 American IPA MJ Liberty

- Gravity **15.9 BLG**
- ABV **6.7 %**
- IBU **47**
- SRM **6.3**
- Style **American IPA**

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 **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.3 liter(s)**
- Total mash volume **24.4 liter(s)**

Steps

- Temp **62 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **18.3 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **45 min** at **62C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **13.1 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	3.65 kg *(59.8%)*	79 %	6
Grain	Strzegom Pilzneński	1.82 kg *(29.8%)*	80 %	4
Grain	Pszeniczny	0.38 kg *(6.2%)*	85 %	4
Grain	Caramunich® typ I	0.25 kg *(4.1%)*	73 %	80

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	16.67 g	60 min	15.5 %
Boil	Eureka!	8.33 g	60 min	18 %
Boil	HBC 342	8.33 g	20 min	10.5 %
Boil	Citra	16.67 g	3 min	13.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Liberty Bell	Ale	Dry	11 g	Mangrove Jack's

Notes

- Wersja 1. (8l)

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.

ananas suszony 25g
Citra - 10g
6 dni

Wersja 2. (13l)
skórka gorzkiej pomarańczy 15g
Citra - 15g
6 dni
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