

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)

ananas suszony 25g
Citra - 10g
6 dni

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