

001_Ace of Hearts

- Gravity **15.9 BLG**
- ABV ---
- IBU **78**
- SRM **9**
- Style **Belgian IPA**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **15 %**
- Size with trub loss **23 liter(s)**
- Boil time **60 min**
- Evaporation rate **20 %/h**
- Boil size **27.6 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18 liter(s)**
- Total mash volume **24 liter(s)**

Steps

- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **45 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **18 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **45 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **15.6 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------------|---------------|-------|-----|
| Grain | Weyermann - Pale Ale Malt | 4 kg (66.7%) | 85 % | 7 |
| Grain | Rye Malt | 1 kg (16.7%) | 63 % | 10 |
| Grain | Weyermann - Grodziski | 0.5 kg (8.3%) | 80 % | 4 |
| Grain | Biscuit Malt | 0.5 kg (8.3%) | 79 % | 45 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|---------------|--------|-----------|------------|
| Boil | Green Bullet | 30 g | 45 min | 11 % |
| Boil | Nelson Sauvín | 10 g | 45 min | 10 % |
| Boil | Sorachi Ace | 10 g | 45 min | 10 % |
| Boil | Green Bullet | 20 g | 30 min | 11 % |
| Aroma (end of boil) | Nelson Sauvín | 10 g | 15 min | 10 % |
| Aroma (end of boil) | Sorachi Ace | 10 g | 15 min | 10 % |
| Aroma (end of boil) | Nelson Sauvín | 15 g | 5 min | 10 % |
| Aroma (end of boil) | Sorachi Ace | 15 g | 5 min | 10 % |
| Dry Hop | Sorachi Ace | 30 g | 10 day(s) | 10 % |

| | | | | |
|---------|---------------|------|-----------|------|
| Dry Hop | Nelson Sauvín | 30 g | 10 day(s) | 10 % |
|---------|---------------|------|-----------|------|

Yeasts

| Name | Type | Form | Amount | Laboratory |
|---------------------------------|------|------|--------|-----------------|
| Mangrove Jack's M27 Belgian Ale | Ale | Dry | 10 g | Mangrove Jack's |

Notes

- Fermentacja burzliwa - 7 dni, Fermentacja cicha - 10 dni. Na 20 litrów piwa, do refermentacji trzeba ~100 gram cukru Dark Muscovado.
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