

Kooperation IPA

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **46**
- SRM **3.9**
- Style **American IPA**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.4 liter(s)**
- Total mash volume **23.2 liter(s)**

Steps

- Temp **65 C**, Time **45 min**
- Temp **72 C**, Time **20 min**

Mash step by step

- Heat up **17.4 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **45 min** at **65C**
- Keep mash **20 min** at **72C**
- Sparge using **14.8 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------------|---------------|-------|-----|
| Grain | Pilznieński | 5 kg (86.2%) | 81 % | 4 |
| Grain | Płatki owsiane | 0.5 kg (8.6%) | 60 % | 3 |
| Grain | Płatki orkiszowe | 0.3 kg (5.2%) | 60 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|--------|--------|--------|------------|
| Boil | Galaxy | 15 g | 60 min | 15.5 % |
| Boil | Galaxy | 15 g | 10 min | 15 % |
| Aroma (end of boil) | Galaxy | 20 g | 5 min | 15 % |
| Whirlpool | Galaxy | 50 g | 1 min | 15 % |
| Aroma (end of boil) | Riwaka | 20 g | 10 min | 3.3 % |
| Aroma (end of boil) | Riwaka | 30 g | 5 min | 3.3 % |
| Whirlpool | Riwaka | 50 g | 1 min | 3.3 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-----------|------|--------|--------|------------|
| Hornindal | Ale | Liquid | 200 ml | Omega |

Extras

| Type | Name | Amount | Use for | Time |
|-------|---------------------|--------|-----------|-----------|
| Other | Odżywka dla drożdży | 10 g | Secondary | 10 day(s) |