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	Pilzneński	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

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

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