

IPA naukowa

- Gravity **15 BLG**
- ABV **6.2 %**
- IBU **40**
- SRM **6.8**
- 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 **15 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **21.3 liter(s)**
- Total mash volume **27.4 liter(s)**

Steps

- Temp **40 C**, Time **30 min**
- Temp **67 C**, Time **40 min**
- Temp **71 C**, Time **10 min**
- Temp **77 C**, Time **15 min**

Mash step by step

- Heat up **21.3 liter(s)** of strike water to **42.9C**
- Add grains
- Keep mash **30 min** at **40C**
- Keep mash **40 min** at **67C**
- Keep mash **10 min** at **71C**
- Keep mash **15 min** at **77C**
- Sparge using **11.2 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Malt (2 Row) Bel	5 kg (82%)	80 %	6
Grain	Briess - Munich Malt 10L	1 kg (16.4%)	77 %	20
Grain	Caramel/Crystal Malt - 40L	0.1 kg (1.6%)	74 %	79

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Centennial	17 g	60 min	10.5 %
Boil	Cascade	19 g	30 min	6 %
Boil	Centennial	11 g	30 min	10.5 %
Boil	Cascade	11 g	15 min	6 %
Aroma (end of boil)	Cascade	8 g	5 min	6 %

Yeasts

Name	Type	Form	Amount	Laboratory
Gozdawa	Ale	Dry	11.5 g	---