

## IPA 2019

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- Gravity **14 BLG**
- ABV **5.8 %**
- IBU **63**
- SRM **6.4**

### Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **27.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **34.4 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **21.9 liter(s)**
- Total mash volume **29.2 liter(s)**

### Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **25 min**
- Temp **77 C**, Time **5 min**

### Mash step by step

- Heat up **21.9 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **25 min** at **72C**
- Keep mash **5 min** at **77C**
- Sparge using **19.8 liter(s)** of **76C** water or to achieve **34.4 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	pilzneński	5 kg (68.5%)	90 %	4.5
Grain	pszeniczny	1 kg (13.7%)	90 %	5
Grain	monachijski	0.5 kg (6.8%)	85 %	13
Grain	cara gold	0.3 kg (4.1%)	85 %	120
Grain	żytni	0.5 kg (6.8%)	85 %	5

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	30 g	60 min	10.9 %
Boil	Columbus	30 g	15 min	16.3 %
Boil	Centennial	30 g	10 min	9.4 %
Boil	Sorachi Ace	15 g	10 min	12.9 %
Boil	Simcoe	30 g	5 min	12.4 %
Aroma (end of boil)	Amarillo	30 g	1 min	7.7 %
Dry Hop	Amarillo	60 g	5 day(s)	7.7 %
Dry Hop	Centennial	30 g	5 day(s)	9.4 %
Dry Hop	Simcoe	30 g	5 day(s)	12.4 %

Dry Hop	Sorachi Ace	15 g	5 day(s)	12.9 %
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### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11.5 g	Fermentis

### Extras

Type	Name	Amount	Use for	Time
Flavor	płatki ryżowe	500 g	Mash	80 min