

## cztery zboża roku

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- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **52**
- SRM **5**
- Style **American IPA**

### Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **20.4 liter(s)**
- Total mash volume **27.2 liter(s)**

### Steps

- Temp **62 C**, Time **45 min**
- Temp **72 C**, Time **20 min**

### Mash step by step

- Heat up **20.4 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **45 min** at **62C**
- Keep mash **20 min** at **72C**
- Sparge using **14.2 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	1.5 kg (22.1%)	80 %	5
Grain	Słód owsiany Fawcett	1.5 kg (22.1%)	61 %	5
Grain	Żytni	1.5 kg (22.1%)	85 %	8
Grain	Weyermann pszeniczny jasny	1 kg (14.7%)	80 %	4
Grain	Weyermann - Acidulated Malt	0.5 kg (7.4%)	80 %	6
Grain	Płatki pszeniczne	0.2 kg (2.9%)	60 %	3
Grain	Płatki owsiane	0.2 kg (2.9%)	60 %	3
Grain	Płatki żytnie	0.2 kg (2.9%)	60 %	5
Grain	Płatki jęczmienne	0.2 kg (2.9%)	60 %	3

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Chinook	22 g	60 min	13 %
Boil	Ahtanum	20 g	30 min	4.7 %
Aroma (end of boil)	Citra	30 g	5 min	12 %
Whirlpool	Amarillo	20 g	20 min	9 %

Whirlpool	Citra	20 g	20 min	12 %
Dry Hop	Citra	50 g	2 day(s)	12 %
Dry Hop	Centennial	50 g	2 day(s)	10.5 %
Dry Hop	Mandarina Bavaria	50 g	2 day(s)	7.7 %

## Yeasts

Name	Type	Form	Amount	Laboratory
WLP066 - London Fog	Ale	Liquid	40 ml	---