

## Może wyjdzie

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- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **35**
- SRM **3.3**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.9 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **25.2 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

### Steps

- Temp **67 C**, Time **60 min**

### Mash step by step

- Heat up **15 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Sparge using **15.2 liter(s)** of **76C** water or to achieve **25.2 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	1.5 kg (30%)	--- %	---
Grain	Simpsons - Best Pale Ale	3 kg (60%)	82.5 %	5
Grain	Briess - Wheat Malt, Red	0.5 kg (10%)	81 %	5

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	10 g	40 min	16.2 %
Boil	Azacca	10 g	5 min	13.1 %
Aroma (end of boil)	Amarillo	10 g	5 min	8.9 %
Aroma (end of boil)	Nelson Sauvín	10 g	5 min	10.7 %
Whirlpool	Azacca	10 g	30 min	13.1 %
Whirlpool	Sabro	10 g	30 min	14.8 %
Dry Hop	Galaxy	50 g	4 day(s)	14.2 %
Dry Hop	Azacca	50 g	4 day(s)	13.1 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M44 US West Coast	Ale	Dry	10 g	---