

# Żytni Stout z ziarnami kakaowca

- Gravity **15.2 BLG**
- ABV **6.3 %**
- IBU **32**
- SRM **36.9**
- Style **Dry Stout**

## Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **19.8 liter(s)**
- Total mash volume **26.4 liter(s)**

## Steps

- Temp **48 C**, Time **15 min**
- Temp **67 C**, Time **60 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **19.8 liter(s)** of strike water to **52.7C**
- Add grains
- Keep mash **15 min** at **48C**
- Keep mash **60 min** at **67C**
- Keep mash **5 min** at **78C**
- Sparge using **15.8 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Ale Malt	2.5 kg (37.9%)	85 %	7
Grain	Weyermann - Rye Malt	2 kg (30.3%)	85 %	7
Grain	Monachijski typ II 20-25 EBC Weyermann	1 kg (15.2%)	80 %	20
Grain	Carafa III	0.5 kg (7.6%)	70 %	1034
Grain	Weyermann - Chocolate Rye	0.3 kg (4.5%)	20 %	493
Grain	Fawcett - Pale Chocolate	0.3 kg (4.5%)	71 %	600

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	30 g	60 min	10 %
Boil	Lublin (Lubelski)	30 g	20 min	4 %

## Yeasts

Name	Type	Form	Amount	Laboratory
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US-05	Ale	Slant	100 ml	---
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### Extras

Type	Name	Amount	Use for	Time
Flavor	Ziarna kakaowca	150 g	Secondary	14 day(s)

### Notes

- Ziarna kakaowca kruszone, prażone w piekarniku 100C, 10 min.  
Odtłuszczone na papierze. Macerowane w rumie.  
*Feb 1, 2019, 4:35 PM*