

# Trzecie piwo 2019 FES

- Gravity **17.3 BLG**
- ABV **7.4 %**
- IBU **44**
- SRM **45.1**
- Style **Foreign Extra Stout**

## Batch size

- Expected quantity of finished beer **17 liter(s)**
- Trub loss **5 %**
- Size with trub loss **17.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **21.6 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.4 liter(s)**
- Total mash volume **24.5 liter(s)**

## Steps

- Temp **66 C**, Time **75 min**
- Temp **73 C**, Time **10 min**

## Mash step by step

- Heat up **18.4 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **75 min** at **66C**
- Keep mash **10 min** at **73C**
- Sparge using **9.3 liter(s)** of **76C** water or to achieve **21.6 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3.5 kg (57.2%)	80 %	5
Grain	Strzegom Pilzneński	1.2 kg (19.6%)	80 %	4
Grain	Płatki owsiane	0.4 kg (6.5%)	85 %	3
Grain	Słód Caramunich Typ II Weyermann	0.19 kg (3.1%)	73 %	120
Grain	Weyermann Caramunich 3	0.19 kg (3.1%)	76 %	150
Grain	Jęczmień palony	0.19 kg (3.1%)	55 %	985
Grain	Extra black	0.25 kg (4.1%)	65 %	1400
Grain	Strzegom Barwiący	0.2 kg (3.3%)	68 %	1400

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	25 g	60 min	15.5 %
Aroma (end of boil)	East Kent Goldings	15 g	3 min	5.1 %
Aroma (end of boil)	Mouteka	15 g	3 min	8 %

## Yeasts

Name	Type	Form	Amount	Laboratory
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Safale S-04	Ale	Slant	1000 ml	Safale
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## Notes

- Karmelowe dodane po 75min  
Palone dodane po 95min  
Rozpoczęcie fermentacji 05.10.2019  
Przelane na cichą 14.10.2019  
Zabutelkowane 28.10.2019 2.3 v/v (coś dziwnie słodkie jest)  
*Oct 5, 2019, 3:30 PM*