

## Czarna ziemia

- Gravity **15.9 BLG**
- ABV ---
- IBU **44**
- SRM **60.6**
- Style **Foreign Extra Stout**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18 liter(s)**
- Total mash volume **24 liter(s)**

### Steps

- Temp **67 C**, Time **59 min**
- Temp **76 C**, Time **1 min**

### Mash step by step

- Heat up **18 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **59 min** at **67C**
- Keep mash **1 min** at **76C**
- Sparge using **13.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Simpsons - Maris Otter	3.7 kg (61.7%)	81 %	6
Grain	Briess - Chocolate Malt	0.5 kg (8.3%)	60 %	690
Grain	Carafa III	0.3 kg (5%)	70 %	1034
Grain	Simpsons - Roasted Barley	0.2 kg (3.3%)	70 %	1084
Grain	smoked wheat malt	1 kg (16.7%)	80.5 %	6
Grain	Weyermann - Melanoiden Malt	0.3 kg (5%)	81 %	53

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	20 g	60 min	15.5 %
Boil	Saaz (Czech Republic)	31 g	15 min	4.5 %
Boil	saaz late	31 g	15 min	1.88 %

### Yeasts

Name	Type	Form	Amount	Laboratory
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Safale S-04	Ale	Dry	11.5 g	Safale
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### Extras

Type	Name	Amount	Use for	Time
Spice	pu-erth	100 g	Secondary	1 day(s)