

## czarna ziemia

- Gravity **14 BLG**
- ABV ---
- IBU **55**
- SRM **29.7**
- Style **American Stout**

### Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **8 %**
- Size with trub loss **11.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **14.1 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **9.6 liter(s)**
- Total mash volume **12.8 liter(s)**

### Steps

- Temp **66 C**, Time **60 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **9.6 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **76C**
- Sparge using **7.7 liter(s)** of **76C** water or to achieve **14.1 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pale Wheat Malt	2.8 kg (87.5%)	--- %	5
Grain	Jęczmień palony	0.2 kg (6.3%)	55 %	985
Grain	Czekoladowy	0.2 kg (6.3%)	60 %	400

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Simcoe	10 g	60 min	13.2 %
Boil	Centennial	11 g	30 min	10.5 %
Boil	Centennial	10 g	15 min	10.5 %
Boil	Simcoe	10 g	0 min	13.2 %
Dry Hop	Simcoe	30 g	7 day(s)	13.2 %
Dry Hop	Centennial	29 g	7 day(s)	10.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M42 New World Strong Ale	Ale	Dry	11.5 g	Mangrove Jack's