

# Czarny Pan

- Gravity **15.7 BLG**
- ABV **6.6 %**
- IBU **64**
- SRM **22.5**
- Style **Black IPA**

## Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **24.1 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 **62 C**, Time **40 min**
- Temp **71 C**, Time **20 min**

## Mash step by step

- Heat up **18 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **40 min** at **62C**
- Keep mash **20 min** at **71C**
- Sparge using **12.1 liter(s)** of **76C** water or to achieve **24.1 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	5.5 kg (91.7%)	81 %	4
Grain	Carafa III	0.3 kg (5%)	70 %	1034
Grain	Cara Gold	0.2 kg (3.3%)	75 %	120

## Hops

Use for	Name	Amount	Time	Alpha acid
Mash	Mosaic	30 g	60 min	10 %
Boil	Mosaic	40 g	10 min	10 %
Aroma (end of boil)	Mosaic	80 g	20 min	10 %
Dry Hop	Mosaic	150 g	4 day(s)	10 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM52 Amerykański Sen	Ale	Liquid	150 ml	Fermentum Mobile

## Extras

Type	Name	Amount	Use for	Time
Spice	kardamon	10 g	Secondary	---

Spice	sól	2 g	Boil	60 min
-------	-----	-----	------	--------

## Notes

- CHMIELE:  
mosaic (10,4%) 300g  
ZACIERANIE:  
21 litrów temp ustalona na 65°C  
62°C - 40 minut ph - 5,5  
71°C - 20 minut - na 5 min przerwy dodanie carafa III  
78°C - wysładzanie wodą ok. 78°C 8l + 1,5 ml kwasu + 6l + 1 ml kwasu

### Chmilenie

30g mosaic - FWH  
3g mech - 15'  
40g mosaic - 10'  
80g mosaic - w 75°C przerwa ok 20min

### Chmilenie na zimno

150g mosaic - 4 dni w ok 14°C

### FERMENTACJA:

Temperatura zadania drożdży ok 15 °C  
planowane od 15°C do 19°C w 6 dni  
*Sep 27, 2020, 6:46 PM*