

# Czarna Wołga

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- Gravity **14.7 BLG**
- ABV **6.1 %**
- IBU **106**
- SRM **41.3**
- Style **Black IPA**

## Batch size

- Expected quantity of finished beer **38 liter(s)**
- Trub loss **5 %**
- Size with trub loss **39.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **48.1 liter(s)**

## Mash information

- Mash efficiency **79 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **33 liter(s)**
- Total mash volume **44 liter(s)**

## Steps

- Temp **62 C**, Time **30 min**
- Temp **67 C**, Time **15 min**
- Temp **72 C**, Time **15 min**

## Mash step by step

- Heat up **33 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **30 min** at **62C**
- Keep mash **15 min** at **67C**
- Keep mash **15 min** at **72C**
- Sparge using **26.1 liter(s)** of **76C** water or to achieve **48.1 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	6 kg (54.5%)	82 %	6
Grain	Strzegom Karmel 30	1 kg (9.1%)	75 %	30
Grain	Strzegom Karmel 150	1 kg (9.1%)	75 %	70
Grain	Strzegom Monachijski typ I	1 kg (9.1%)	79 %	16
Grain	Strzegom Czekoladowy 400	1 kg (9.1%)	68 %	400
Grain	Strzegom Czekoladowy ciemny	1 kg (9.1%)	68 %	1200

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	40 g	60 min	15.5 %
Boil	Palisade	30 g	40 min	7.5 %
Boil	Mosaic	50 g	20 min	10 %
Boil	Summit	50 g	15 min	17 %
Boil	Columbus/Tomahawk/Zeus	50 g	10 min	15.5 %
Boil	Summit	50 g	5 min	17 %

## Yeasts

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

## Extras

Type	Name	Amount	Use for	Time
Water Agent	Kwas fosforowy	5 g	Mash	0 min
Water Agent	Chlorek Magnezu	25 g	Boil	60 min