

# Czarne piwo na święta

- Gravity **18.2 BLG**
- ABV **7.8 %**
- IBU **20**
- SRM **37.3**
- Style **Christmas/Winter Specialty Spiced Beer**

## Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **15.4 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.7 liter(s)**
- Total mash volume **18.2 liter(s)**

## Steps

- Temp **55 C**, Time **15 min**
- Temp **68 C**, Time **35 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **3 min**

## Mash step by step

- Heat up **13.7 liter(s)** of strike water to **60.8C**
- Add grains
- Keep mash **15 min** at **55C**
- Keep mash **35 min** at **68C**
- Keep mash **20 min** at **72C**
- Keep mash **3 min** at **78C**
- Sparge using **6.3 liter(s)** of **76C** water or to achieve **15.4 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Pilsner Malt	3.5 kg (76.8%)	81 %	5
Grain	Słód owsiany castle malting	0.25 kg (5.5%)	61 %	5
Grain	Jęczmień palony weyermann	0.13 kg (2.9%)	55 %	985
Grain	Weyermann - Carafa I	0.13 kg (2.9%)	70 %	690
Grain	Strzegom Karmel 600	0.25 kg (5.5%)	68 %	601
Grain	Strzegom Karmel 300	0.05 kg (1.1%)	70 %	299
Grain	Simpsons - Coffee Malt	0.25 kg (5.5%)	74 %	296

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hersbrucker	15 g	50 min	2.5 %
Boil	Sybilla	5 g	50 min	6.6 %

Boil	Marynka	5 g	50 min	10 %
Boil	Chinook	2.5 g	20 min	13 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M42 New World Strong Ale	Ale	Dry	5 g	Mangrove Jack's

### Extras

Type	Name	Amount	Use for	Time
Spice	kardamon	4 g	Boil	10 min
Spice	goździki	1 g	Boil	10 min
Spice	imbir	10 g	Boil	10 min
Spice	wanilia	0.5 g	Boil	10 min
Spice	curcao	5 g	Boil	10 min
Spice	gałka	2.5 g	Boil	10 min
Spice	cynamon	2.5 g	Boil	10 min