

# Kozłak dubeltowy wędzony na mistrzostwa 06/11/2020

- Gravity **20.7 BLG**
- ABV **9.2 %**
- IBU **22**
- SRM **21.5**
- Style **Doppelbock**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **22.8 liter(s)**
- Total mash volume **31.9 liter(s)**

## Steps

- Temp **50 C**, Time **1 min**
- Temp **65 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **22.8 liter(s)** of strike water to **56C**
- Add grains
- Keep mash **1 min** at **50C**
- Keep mash **30 min** at **65C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **12.7 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Słód Wędzony Steinbach	3 kg (32.9%)	80 %	5
Grain	Monachijski	3.5 kg (38.4%)	80 %	16
Grain	Weyermann - Carafa II Special	0.17 kg (1.9%)	70 %	1150
Grain	Maris Otter Crisp	1.5 kg (16.4%)	83 %	6
Grain	Słód Caramunich Typ II Weyermann	0.5 kg (5.5%)	73 %	120
Grain	Strzegom Monachijski typ II	0.45 kg (4.9%)	79 %	22

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Mittel fruh	50 g	60 min	3.7 %
Aroma (end of boil)	Hersbrucker	60 g	10 min	4.1 %

## Yeasts

Name	Type	Form	Amount	Laboratory
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34/70	Lager	Slant	350 ml	Fermentis
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### Extras

Type	Name	Amount	Use for	Time
Fining	mech irlandzki	5 g	Boil	10 min