

# Żytnie bawarskie - pierwsze żyto

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **19**
- SRM **8.4**
- Style **Roggenbier**

## Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **21.6 liter(s)**
- Total mash volume **27 liter(s)**

## Steps

- Temp **44 C**, Time **20 min**
- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **79 C**, Time **5 min**

## Mash step by step

- Heat up **21.6 liter(s)** of strike water to **47C**
- Add grains
- Keep mash **20 min** at **44C**
- Keep mash **40 min** at **64C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **79C**
- Sparge using **12.8 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Żytni	3 kg (55.6%)	85 %	8
Grain	Pilzneński	1 kg (18.5%)	81 %	4
Grain	Strzegom Monachijski typ I	1 kg (18.5%)	79 %	16
Grain	Karmelowy Pszeniczny Strzegom	0.4 kg (7.4%)	79 %	130

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Lublin (Lubelski)	50 g	60 min	4 %