

# Growar

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- Gravity **7.1 BLG**
- ABV **2.7 %**
- IBU **24**
- SRM **2.4**
- Style **Grodziskie/Graetzer**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **10.5 liter(s)**
- Total mash volume **13.5 liter(s)**

## Steps

- Temp **67 C**, Time **60 min**

## Mash step by step

- Heat up **10.5 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **67C**
- Sparge using **17.8 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Grodziski pszeniczny wędzony dębem	2 kg (66.7%)	80 %	3
Grain	Viking Pilsner malt	1 kg (33.3%)	81 %	4

## Hops

Use for	Name	Amount	Time	Alpha acid
First Wort	lunga	15 g	60 min	11 %

## Yeasts

Name	Type	Form	Amount	Laboratory
wyeast - dennys favorite 50	Ale	Liquid	125 ml	wyeast

## Notes

- Modyfikowana woda destylowana (ppm)
    - Ca - 101
    - Mg - 10
    - Na - 20
    - S - 106
    - Cl - 75
    - CaCO3 - 146
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