

# Germania terra frigida est - Helles

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- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **19**
- SRM **3.4**
- Style **Munich Helles**

## 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 **20 %/h**
- Boil size **27.6 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.5 liter(s)**
- Total mash volume **18 liter(s)**

## Steps

- Temp **66 C**, Time **60 min**

## Mash step by step

- Heat up **13.5 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Sparge using **18.6 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	4.5 kg (100%)	81 %	4

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Tettnang	30 g	60 min	4 %
Boil	Tettnang	20 g	20 min	4 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM31 Bawarska Dolina	Lager	Liquid	40 ml	Fermentum Mobile