

# Pierwszy niemiecki

- Gravity **9.5 BLG**
- ABV **3.7 %**
- IBU **25**
- SRM **4.2**
- Style **Kölsch**

## 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 **75 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **15.2 liter(s)**
- Total mash volume **19 liter(s)**

## Steps

- Temp **52 C**, Time **10 min**
- Temp **63 C**, Time **40 min**
- Temp **73 C**, Time **20 min**
- Temp **76 C**, Time **10 min**

## Mash step by step

- Heat up **15.2 liter(s)** of strike water to **56C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **40 min** at **63C**
- Keep mash **20 min** at **73C**
- Keep mash **10 min** at **76C**
- Sparge using **13.9 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Słód Pilsner® 2,5-4,5 EBC Weyermann	2.8 kg (73.7%)	80 %	4
Grain	Słód pszeniczny Bestmalz	0.75 kg (19.7%)	82 %	5
Grain	Briess - Carapils Malt	0.15 kg (3.9%)	74 %	3
Grain	Słód Caramunich Typ II Weyermann	0.1 kg (2.6%)	73 %	120

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	LUNGA	5 g	60 min	10 %
Boil	Lunga	5 g	45 min	10 %
Aroma (end of boil)	Tradition	15 g	30 min	5.5 %
Aroma (end of boil)	Tradition	15 g	15 min	5.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
------	------	------	--------	------------

Old German Altbier	Ale	Dry	11.5 g	White Labs
--------------------	-----	-----	--------	------------