

# Letnie Ale cytrusowo-kardamonowe

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **24**
- SRM **5.8**

## Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.5 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.2 liter(s)**
- Total mash volume **21.6 liter(s)**

## Steps

- Temp **62 C**, Time **30 min**
- Temp **72 C**, Time **45 min**

## Mash step by step

- Heat up **16.2 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **30 min** at **62C**
- Keep mash **45 min** at **72C**
- Sparge using **15.7 liter(s)** of **76C** water or to achieve **26.5 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	2.5 kg (46.3%)	80 %	4
Grain	Strzegom Wiedeński	2 kg (37%)	79 %	10
Grain	Strzegom Pszeniczny	0.4 kg (7.4%)	81 %	6
Grain	Karmelowy Jasny 30EBC	0.5 kg (9.3%)	75 %	30

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hallertau	25 g	60 min	4.5 %
Boil	Hallertau	25 g	20 min	4.5 %
Boil	Apollo	15 g	10 min	10 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Slant	200 ml	Fermentis

## Extras

Type	Name	Amount	Use for	Time
Flavor	skórka cytrynowa	44 g	Boil	10 min
Flavor	Skórka limonki	16 g	Boil	10 min

Spice	kardamon	5 g	Boil	10 min
Spice	trawa cytrynowa	25 g	Boil	5 min