

# urodzinowe jasne

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- Gravity **12.6 BLG**
- ABV ---
- IBU **25**
- SRM **4.1**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.7 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.8 liter(s) / kg**
- Mash size **15.4 liter(s)**
- Total mash volume **20.9 liter(s)**

## Steps

- Temp **65 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **15.4 liter(s)** of strike water to **73C**
- Add grains
- Keep mash **45 min** at **65C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **17.8 liter(s)** of **76C** water or to achieve **27.7 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	5 kg (90.9%)	80 %	5
Grain	Weyermann - Carapils	0.5 kg (9.1%)	78 %	4

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Kazbek	30 g	40 min	6.7 %
Boil	Kazbek	30 g	10 min	6.7 %
Whirlpool	Kazbek	40 g	30 min	6.7 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11 g	Fermentis