

# APA urodzinowa

- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **30**
- SRM **4.9**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **7 %**
- Size with trub loss **23.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **28.8 liter(s)**

## Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **14 liter(s)**
- Total mash volume **18 liter(s)**

## Steps

- Temp **66 C**, Time **666 min**

## Mash step by step

- Heat up **14 liter(s)** of strike water to **72.6C**
- Add grains
- Keep mash **666 min** at **66C**
- Sparge using **18.8 liter(s)** of **76C** water or to achieve **28.8 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3.8 kg (95%)	80 %	5
Grain	Arome Castle Malting	0.2 kg (5%)	78 %	100

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Cascade	20 g	50 min	8.1 %
Boil	Cascade	9.4 g	5 min	8.1 %
Boil	Chinook	5 g	5 min	11.2 %
Boil	Sabro	5 g	5 min	15 %
Aroma (end of boil)	Chinook	15 g	1 min	11.2 %
Aroma (end of boil)	Sabro	15 g	1 min	15 %
Whirlpool	Chinook	15 g	10 min	11.2 %
Whirlpool	Sabro	15 g	10 min	15 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11.5 g	Fermentis

## Extras

Type	Name	Amount	Use for	Time
Spice	Skórka pomarańczy curacao	20 g	Boil	5 min