

## Pine Ale / Waldbier v2

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- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **27**
- SRM **17.6**
- Style **Spice, Herb, or Vegetable Beer**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **15 %**
- Size with trub loss **23 liter(s)**
- Boil time **90 min**
- Evaporation rate **6 %/h**
- Boil size **27.3 liter(s)**

### Mash information

- Mash efficiency **60 %**
- Liquor-to-grist ratio **3.34 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **26 liter(s)**

### Steps

- Temp **50 C**, Time **1 min**
- Temp **70 C**, Time **45 min**
- Temp **76 C**, Time **15 min**

### Mash step by step

- Heat up **20 liter(s)** of strike water to **54.5C**
- Add grains
- Keep mash **1 min** at **50C**
- Keep mash **45 min** at **70C**
- Keep mash **15 min** at **76C**
- Sparge using **13.3 liter(s)** of **76C** water or to achieve **27.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński Optima	4 kg (62.5%)	80.5 %	4
Grain	Wiedeński Optima	1 kg (15.6%)	79.2 %	9
Grain	Karmelowy jasny Optima	0.7 kg (10.9%)	72.6 %	125
Grain	Caraaroma Weyermann	0.2 kg (3.1%)	74 %	351
Grain	Jęczmień palony	0.1 kg (1.6%)	55 %	1000
Adjunct	Miód lipowy	0.4 kg (6.3%)	75 %	2

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga granulát	15 g	30 min	10.7 %
Boil	Citra granulát	15 g	20 min	11.8 %
Boil	Lubelski granulát	20 g	10 min	4.4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	23 g	Fermentis

## Extras

Type	Name	Amount	Use for	Time
Herb	Pączek sosny	50 g	Boil	15 min
Flavor	Płatki drewniane koniak	20 g	Boil	15 min
Other	Chłodnica	0 g	Boil	10 min
Finning	Mech irlandzki	5 g	Boil	5 min