

Maris Otter

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **51**
- SRM **9.2**
- Style **California Common Beer**

Batch size

- Expected quantity of finished beer **24 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **30.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **19.5 liter(s)**
- Total mash volume **26 liter(s)**

Steps

- Temp **58 C**, Time **15 min**
- Temp **62 C**, Time **15 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **19.5 liter(s)** of strike water to **64.3C**
- Add grains
- Keep mash **15 min** at **58C**
- Keep mash **15 min** at **62C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **17.4 liter(s)** of **76C** water or to achieve **30.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Simpsons - Maris Otter	5 kg (74.6%)	81 %	6
Grain	Weyermann - Melanoiden Malt	1 kg (14.9%)	81 %	53
Grain	Słód Wędzony Steinbach	0.5 kg (7.5%)	80 %	5
Sugar	Candi Sugar, Amber	0.2 kg (3%)	78.3 %	148

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	25 g	55 min	15.5 %
Boil	Challenger	30 g	30 min	7 %
Boil	Mandarina Bavaria	25 g	5 min	10 %
Dry Hop	Mandarina Bavaria	25 g	5 day(s)	10 %

Yeasts

Name	Type	Form	Amount	Laboratory
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california lager m54	Lager	Dry	10.5 g	mangrove jack
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