

obama

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **36**
- SRM **27.3**
- Style **American Brown Ale**

Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **5 %**
- Size with trub loss **15.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **19 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **12.5 liter(s)**
- Total mash volume **16.1 liter(s)**

Steps

- Temp **64 C**, Time **15 min**
- Temp **72 C**, Time **45 min**
- Temp **76 C**, Time **1 min**

Mash step by step

- Heat up **12.5 liter(s)** of strike water to **70.3C**
- Add grains
- Keep mash **15 min** at **64C**
- Keep mash **45 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **10.1 liter(s)** of **76C** water or to achieve **19 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	2.75 kg (77%)	81 %	4
Grain	Caraaroma	0.45 kg (12.6%)	78 %	400
Grain	cookie	0.22 kg (6.2%)	77 %	50
Grain	weyermann Czekoladowy ciemny pszeniczny	0.15 kg (4.2%)	68 %	1050

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Iunga	14 g	60 min	11 %
Aroma (end of boil)	Mosaic	15 g	5 min	13 %
Aroma (end of boil)	Cascade PL	15 g	5 min	8 %
Whirlpool	Mosaic	35 g	1 min	13.2 %
Whirlpool	Cascade PL	35 g	1 min	8 %

Yeasts

Name	Type	Form	Amount	Laboratory
------	------	------	--------	------------

FM52 Amerykański Sen	Ale	Liquid	112.5 ml	Fermentum Mobile
-------------------------	-----	--------	----------	------------------