

# Freak Lemon Daro

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **22**
- SRM **3.8**
- Style **American Wheat or Rye Beer**

## Batch size

- Expected quantity of finished beer **28 liter(s)**
- Trub loss **5 %**
- Size with trub loss **29.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **32.3 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.9 liter(s)**
- Total mash volume **25.2 liter(s)**

## Steps

- Temp **44 C**, Time **15 min**
- Temp **63 C**, Time **45 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **18.9 liter(s)** of strike water to **48C**
- Add grains
- Keep mash **15 min** at **44C**
- Keep mash **45 min** at **63C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **19.7 liter(s)** of **76C** water or to achieve **32.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pszeniczny	2.5 kg (39.7%)	85 %	4
Grain	Pilzneński	3.5 kg (55.6%)	81 %	4
Grain	Karmelowy	0.3 kg (4.8%)	80 %	16

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Challenger	20 g	60 min	7 %
Boil	Cascade	25 g	15 min	6 %
Boil	Centennial	25 g	5 min	10.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
K-97	Wheat	Dry	11 g	Fermentis

## Extras

Type	Name	Amount	Use for	Time
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Spice	skórka cytryny	50 g	Mash	15 min
Flavor	sok z cytryny	300 g	Secondary	5 day(s)
Other	kwask fosforowy	25 g	Boil	1 min

## Notes

- 300 g soku to około 6 cytryn  
do zakwaszenia brzeczki dodać kwas fosforowy po gotowaniu  
*Feb 25, 2023, 1:21 PM*