

X-Mas ver.2 Coop

- Gravity **18 BLG**
- ABV **7.7 %**
- IBU **27**
- SRM **52.6**
- Style **Christmas/Winter Specialty Spiced Beer**

Batch size

- Expected quantity of finished beer **12.1 liter(s)**
- Trub loss **5 %**
- Size with trub loss **13.9 liter(s)**
- Boil time **120 min**
- Evaporation rate **10 %/h**
- Boil size **18.1 liter(s)**

Mash information

- Mash efficiency **65 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **17 liter(s)**
- Total mash volume **21.8 liter(s)**

Steps

- Temp **64 C**, Time **20 min**
- Temp **72 C**, Time **60 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **17 liter(s)** of strike water to **70.3C**
- Add grains
- Keep mash **20 min** at **64C**
- Keep mash **60 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **6 liter(s)** of **76C** water or to achieve **18.1 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	1 kg (18.7%)	80 %	5
Grain	Monachijski	2 kg (37.4%)	80 %	16
Grain	Optima Karmel 350	0.75 kg (14%)	70 %	350
Grain	Platki owsiane	0.5 kg (9.3%)	85 %	3
Grain	Carafa II	0.42 kg (7.9%)	70 %	1000
Grain	Weyermann - Chocolate Wheat	0.18 kg (3.4%)	74 %	788
Sugar	Milk Sugar (Lactose)	0.5 kg (9.3%)	76.1 %	0

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	20 g	40 min	11.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	Safale

Extras

Type	Name	Amount	Use for	Time
Other	skórka słodkiej pomarańczy	25 g	Boil	10 min
Other	skórka pomarańczy curacao	10 g	Boil	10 min
Spice	cynamon	10 g	Boil	10 min
Spice	imbir	6 g	Boil	10 min
Spice	kolendra	2 g	Boil	10 min
Spice	gałka muszkatołowa	1 g	Boil	10 min
Spice	anyż	1 g	Boil	10 min

Notes

- Kooperacyjne Christmas Ale

Mleczna czekolada i kawa przeplatana z nutami przypraw świątecznych w słodkiej odświeżce
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