Świąteczne ale

- Gravity **15.4 BLG**
- ABV **6.5 %**
- IBU **31**
- SRM **20.6**
- Style **Christmas/Winter Specialty Spiced Beer**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

Mash information

- Mash efficiency **65 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.3 liter(s)**
- Total mash volume **24.4 liter(s)**

Steps

- Temp **52 C**, Time **10 min**
- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **18.3 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **60 min** at **66C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **15.6 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	2.2 kg *(30.6%)*	82 %	4
Grain	Monachijski	1.1 kg *(15.3%)*	80 %	16
Grain	Strzegom Bursztynowy	1.1 kg *(15.3%)*	70 %	49
Grain	Viking melanoidynowy	0.5 kg *(6.9%)*	75 %	60
Grain	Strzegom Karmel 600	0.2 kg *(2.8%)*	68 %	601
Grain	Strzegom Czekoladowy jasny	0.2 kg *(2.8%)*	68 %	400
Grain	Barley, Flaked	0.4 kg *(5.6%)*	70 %	4
Grain	Oats, Flaked	0.4 kg *(5.6%)*	80 %	2
+1				
Sugar	Milk Sugar (Lactose)	0.6 kg *(8.3%)*	76.1 %	0
Sugar	Brown Sugar, muscovado	0.5 kg *(6.9%)*	100 %	99

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	30 g	60 min	8 %
Boil	Sybilla	30 g	15 min	7 %

Yeasts

Name	Type	Form	Amount	Laboratory
t-58	Ale	Dry	23 g	---

Extras

Type	Name	Amount	Use for	Time
Spice	przyprawa do piernika	20 g	Boil	5 min
Cynamon (44%), imbir (11%) , goździki, gałka muszkatołowa, kolendra, kardamon, pieprz, ziele angielskie +20g macerowane w wódce (2021)				
Flavor	skórka pomarańczowa	20 g	Boil	5 min
+skórka cytrynowa 20g (2021)				
Flavor	skórka cytryny	20 g	Boil	5 min
Flavor	chilli	2 g	Boil	5 min
Flavor	jałowiec	6 g	Boil	5 min
< jałowca 2021				
Flavor	Pasta waniliowa	15 g	Secondary	7 day(s)
+2021				