

Santa Pale Ale

- Gravity **18.4 BLG**
- ABV **8 %**
- IBU **46**
- SRM **21.1**
- Style **Christmas/Winter Specialty Spiced Beer**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **28.1 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.7 liter(s)**
- Total mash volume **20.9 liter(s)**

Steps

- Temp **53 C**, Time **15 min**
- Temp **68 C**, Time **50 min**

Mash step by step

- Heat up **15.7 liter(s)** of strike water to **58.5C**
- Add grains
- Keep mash **15 min** at **53C**
- Keep mash **50 min** at **68C**
- Sparge using **17.6 liter(s)** of **76C** water or to achieve **28.1 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Hook Head Irish Pale Malt 4-6 EBC (Minch)	3 kg (43.4%)	80 %	6
Grain	Pilsner malt Muntons	1 kg (14.5%)	82 %	3
Grain	Minch Irish Grown Wheat Malt	0.5 kg (7.2%)	81 %	5
Sugar	Milk Sugar (Lactose)	0.7 kg (10.1%)	76.1 %	0
Adjunct	Platki owsiane	0.5 kg (7.2%)	85 %	3
Sugar	Molasses corn	0.5 kg (7.2%)	78.3 %	158
Grain	Special B Castle	0.52 kg (7.5%)	70 %	350
Grain	castle extra dark	0.2 kg (2.9%)	80 %	385

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Junga 2013 Harverst	50 g	60 min	11.1 %
Whirlpool	Millennium	20 g	0 min	15.5 %
Whirlpool	Junga 2013 Harverst	15 g	0 min	11.1 %

Yeasts

Name	Type	Form	Amount	Laboratory
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WLP041 - Pacific Ale Yeast	Lager	Slant	1000 ml	---
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Extras

Type	Name	Amount	Use for	Time
Spice	imbir świeży	80 g	Boil	60 min
Spice	cynamon	40 g	Boil	10 min
Spice	gałka muskatołowa	5 g	Boil	10 min
Spice	anyż	5 g	Boil	10 min
Spice	goździki	5 g	Boil	10 min
Spice	kardamon	5 g	Boil	10 min
Other	skórka z grajfruta	100 g	Boil	10 min
Other	skórka z 2 limonek	50 g	Boil	10 min
Spice	pieprz cayen	10 g	Boil	10 min

Notes

- Milk Sugar (Lactose) dodane do gotowania na 15 do końca
 Molasses corn dodane do gotowania na 15 do końca
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