

Urodzinowe Ale

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **23**
- SRM **4.9**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

Batch size

- Expected quantity of finished beer **21.5 liter(s)**
- Trub loss **10 %**
- Size with trub loss **23.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **29 liter(s)**

Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **15.4 liter(s)**
- Total mash volume **19.8 liter(s)**

Steps

- Temp **67 C**, Time **666 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **15.4 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **666 min** at **67C**
- Keep mash **5 min** at **78C**
- Sparge using **18 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	2.9 kg (65.9%)	80 %	4
Grain	Strzegom Monachijski typ II	1 kg (22.7%)	79 %	22
Grain	Strzegom Wiedeński	0.5 kg (11.4%)	79 %	10

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Cascade PL	25 g	50 min	5.2 %
Boil	Cascade PL	15 g	30 min	5.2 %
Aroma (end of boil)	Cascade PL	15 g	15 min	5.2 %

Yeasts

Name	Type	Form	Amount	Laboratory
Danstar - Windsor Ale	Ale	Dry	11 g	Danstar

Extras

Type	Name	Amount	Use for	Time
Fining	whirlflock t	2.38 g	Boil	15 min

Other	vitamon combi	5 g	Boil	10 min
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Notes

- Woda do wysładzania:
 - 9 l + 1,5 ml kwasu mlekowego 80%
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