

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 |
|-------|---------------|-----|------|--------|

Notes

- Woda do wystadzania:
 1. 9 l + 1,5 ml kwasu mlekowego 80%
 2. 9 l + 1,5 ml kwasu mlekowego 80%*Dec 1, 2018, 2:51 PM*