

Murzynek na mleku

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **28**
- SRM **38.9**
- Style **Sweet Stout**

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 **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.3 liter(s)**
- Total mash volume **21.7 liter(s)**

Steps

- Temp **62 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **72 C**, Time **10 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **16.3 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **40 min** at **62C**
- Keep mash **10 min** at **72C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **16.9 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|---------|-----------------------------|----------------|--------|------|
| Grain | Viking Pale Ale malt | 3.5 kg (57.2%) | 80 % | 5 |
| Grain | Strzegom Karmel 300 | 0.4 kg (6.5%) | 70 % | 299 |
| Grain | Carabelge | 0.2 kg (3.2%) | 80 % | 30 |
| Grain | Strzegom Czekoladowy ciemny | 0.31 kg (5%) | 68 % | 1200 |
| Grain | Carafa | 0.31 kg (5%) | 70 % | 664 |
| Grain | Płatki owsiane | 0.51 kg (8.3%) | 85 % | 3 |
| Adjunct | Milk Sugar (Lactose) | 0.7 kg (11.5%) | 76.1 % | 0 |
| Grain | Carafa III | 0.2 kg (3.2%) | 70 % | 1034 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|-----------|-------------------|---------|--------|------------|
| Boil | Green Bullet | 22 g | 60 min | 11 % |
| Boil | Lublin (Lubelski) | 15 g | 30 min | 4 % |
| Whirlpool | Lublin (Lubelski) | 10.01 g | 15 min | 4 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|------|---------|------------|
| Safale S-04 | Ale | Dry | 11.51 g | Safale |

Extras

| Type | Name | Amount | Use for | Time |
|-------|---------------|---------|-----------|-----------|
| Spice | Cynamon | 10.01 g | Boil | 20 min |
| Spice | Laska wanilli | 10.01 g | Secondary | 10 day(s) |

Notes

- Po 20 min zacierania w 71 stopniach dodać słody palone.
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