

Bitter Bitter

- Gravity **8.8 BLG**
- ABV **3.4 %**
- IBU **21**
- SRM **4.5**
- Style **Mild**

Batch size

- Expected quantity of finished beer **9 liter(s)**
- Trub loss **5 %**
- Size with trub loss **9.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **11.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **3.6 liter(s)**
- Total mash volume **4.8 liter(s)**

Steps

- Temp **66 C**, Time **70 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **3.6 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **70 min** at **66C**
- Keep mash **10 min** at **78C**
- Sparge using **8.9 liter(s)** of **76C** water or to achieve **11.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------------------------|----------------|-------|-----|
| Grain | Simpsons - Maris Otter | 1.1 kg (78.6%) | 81 % | 6 |
| Grain | Simpsons - Imperial malt | 0.05 kg (3.6%) | 75 % | 43 |
| Grain | Simpsons - Caramel/Crystal Malt - 60L | 0.05 kg (3.6%) | 74 % | 118 |
| Sugar | Cane (Beet) Sugar | 0.2 kg (14.3%) | 100 % | 0 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil | Lublin (Lubelski) | 30 g | 30 min | 3 % |
| Boil | Lublin (Lubelski) | 30 g | 1 min | 3 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|----------------------------|------|-------|--------|------------------|
| FM10 O czym szumią wierzby | Ale | Slant | 100 ml | Fermentum Mobile |

Extras

| Type | Name | Amount | Use for | Time |
|------|------|--------|---------|------|
|------|------|--------|---------|------|

| | | | | |
|-------------|-----------------|-------|------|--------|
| Water Agent | gips | 2.5 g | Mash | 60 min |
| Water Agent | chlorek magnezu | 3 g | Mash | 60 min |