

#10. X-mas stout

- Gravity **14 BLG**
- ABV **5.8 %**
- IBU **41**
- SRM **35.4**
- Style **Christmas/Winter Specialty Spiced Beer**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **21.2 liter(s)**
- Total mash volume **27.3 liter(s)**

Steps

- Temp **65 C**, Time **45 min**
- Temp **68 C**, Time **25 min**
- Temp **76 C**, Time **1 min**

Mash step by step

- Heat up **21.2 liter(s)** of strike water to **71.4C**
- Add grains
- Keep mash **45 min** at **65C**
- Keep mash **25 min** at **68C**
- Keep mash **1 min** at **76C**
- Sparge using **16.6 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|----------------|---------------------------------|-----------------|-------|------|
| Grain | Malteurop ale | 3.81 kg (54.8%) | 80 % | 5 |
| Grain | Strzegom Karmel 150 | 0.63 kg (9.1%) | 75 % | 150 |
| Grain | Strzegom Czekoladowy ciemny | 0.25 kg (3.6%) | 68 % | 1200 |
| Grain | Carafa II | 0.25 kg (3.6%) | 70 % | 812 |
| Grain | Carafa III | 0.25 kg (3.6%) | 70 % | 1034 |
| Grain | Strzegom Monachijski typ I | 0.63 kg (9.1%) | 79 % | 16 |
| Liquid Extract | Miód Gryczany (Buckwheat Honey) | 0.88 kg (12.7%) | 70 % | 40 |
| Grain | Pszeniczny | 0.25 kg (3.6%) | 85 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|--------|--------|--------|------------|
| Boil | Magnum | 15 g | 60 min | 14 % |
| Boil | Magnum | 10 g | 45 min | 14 % |
| Boil | Magnum | 10 g | 30 min | 14 % |
| Aroma (end of boil) | Magnum | 5 g | 15 min | 14 % |

| | | | | |
|---------------------|--------|-----|-------|------|
| Aroma (end of boil) | Magnum | 5 g | 5 min | 14 % |
| Whirlpool | Magnum | 5 g | 0 min | 14 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|---------------------------|------|-------|----------|------------------|
| FM13 Irlandzkie Ciemności | Ale | Slant | 137.5 ml | Fermentum Mobile |

Extras

| Type | Name | Amount | Use for | Time |
|--------|-----------------------|---------|---------|--------|
| Spice | Skórka z 4 pomarańczy | 0 g | Boil | 15 min |
| Flavor | Laktoza | 562.5 g | Boil | 15 min |
| Spice | Imbir | 10 g | Boil | 15 min |
| Spice | Goździki | 10 g | Boil | 15 min |
| Spice | Cynamon 3szt | 15 g | Boil | 15 min |
| Spice | Kardamon | 7 g | Boil | 15 min |

Notes

- Przed dodaniem laktozy - 14 Blg
Po dodaniu laktozy - 16 Blg
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