

Drwal#3

- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **73**
- SRM **33.6**
- Style **American Stout**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **40 min**
- Evaporation rate **10 %/h**
- Boil size **27.4 liter(s)**

Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.4 liter(s)**
- Total mash volume **24.6 liter(s)**

Steps

- Temp **63 C**, Time **50 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **18.4 liter(s)** of strike water to **70.2C**
- Add grains
- Keep mash **50 min** at **63C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **15.2 liter(s)** of **76C** water or to achieve **27.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------------|----------------|--------|------|
| Grain | Weyermann - Pale Ale Malt | 2.3 kg (37.4%) | 85 % | 7 |
| Grain | Viking Pilsner malt | 1.1 kg (17.9%) | 82 % | 4 |
| Grain | Cookie Viking Malt | 0.5 kg (8.1%) | 77 % | 70 |
| Grain | Weyermann - Carafa special typ I | 0.4 kg (6.5%) | 70.6 % | 900 |
| Grain | Weyermann Specjal W | 0.3 kg (4.9%) | 68 % | 300 |
| Grain | Czekoladowy pszeniczny Weyermann | 0.25 kg (4.1%) | 68.8 % | 1000 |
| Grain | Płatki owsiane | 0.5 kg (8.1%) | 60 % | 3 |
| Grain | Słód pszeniczny Bestmalz | 0.5 kg (8.1%) | 82 % | 5 |
| Grain | Żytni | 0.1 kg (1.6%) | 85 % | 8 |
| Grain | Słód owsiany Fawcett | 0.2 kg (3.3%) | 61 % | 5 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------|--------|------|------------|
|---------|------|--------|------|------------|

| | | | | |
|---------------------|------------------------|------|----------|--------|
| Boil | Columbus/Tomahawk/Zeus | 37 g | 35 min | 12.6 % |
| Boil | Simcoe | 26 g | 30 min | 12.6 % |
| Boil | Sabro | 20 g | 20 min | 15.8 % |
| Aroma (end of boil) | Sabro | 30 g | 1 min | 15.8 % |
| Dry Hop | Sabro | 47 g | 4 day(s) | 15.8 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| US-05 | Ale | Dry | 10.5 g | --- |

Extras

| Type | Name | Amount | Use for | Time |
|-------------|-----------------|--------|---------|--------|
| Water Agent | Gips piwowarski | 1.7 g | Mash | 90 min |
| Fining | Mech Irlandzki | 4 g | Boil | 10 min |