

# projekt Świąteczne #1 - Browar na Wyżynie

- Gravity **16.6 BLG**
- ABV **7 %**
- IBU **32**
- SRM **38.4**
- Style **Foreign Extra Stout**

## Batch size

- Expected quantity of finished beer **16 liter(s)**
- Trub loss **6 %**
- Size with trub loss **17 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **19.8 liter(s)**

## Mash information

- Mash efficiency **72 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.2 liter(s)**
- Total mash volume **21.6 liter(s)**

## Steps

- Temp **55 C**, Time **10 min**
- Temp **69 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **16.2 liter(s)** of strike water to **60.8C**
- Add grains
- Keep mash **10 min** at **55C**
- Keep mash **45 min** at **69C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **9 liter(s)** of **76C** water or to achieve **19.8 liter(s)** of wort

## Fermentables

| Type  | Name                           | Amount          | Yield | EBC  |
|-------|--------------------------------|-----------------|-------|------|
| Grain | pale ale Viking Malt           | 3 kg (49.9%)    | 79 %  | 8    |
| Grain | bursztynowy cookie Viking Malt | 1 kg (16.6%)    | 72 %  | 60   |
| Grain | jęczmień prażony Viking Malt   | 0.2 kg (3.3%)   | 1 %   | 1000 |
| Grain | czekoladowy ciemny Viking Malt | 0.3 kg (5%)     | 1 %   | 1200 |
| Grain | pszeniczny Viking Malt         | 0.3 kg (5%)     | 81 %  | 5    |
| Grain | płatki owsiane błyskawiczne    | 0.6 kg (10%)    | 50 %  | 3    |
| Sugar | Miód gryczany                  | 0.5 kg (8.3%)   | --- % | ---  |
| Sugar | cukier                         | 0.111 kg (1.8%) | --- % | ---  |

## Hops

| Use for | Name                  | Amount | Time   | Alpha acid |
|---------|-----------------------|--------|--------|------------|
| Boil    | Junga (PL) - granulát | 20 g   | 60 min | 12.5 %     |

|      |                          |      |       |     |
|------|--------------------------|------|-------|-----|
| Boil | Lubelski (PL) - granulat | 20 g | 5 min | 4 % |
|------|--------------------------|------|-------|-----|

### Yeasts

| Name        | Type | Form  | Amount | Laboratory |
|-------------|------|-------|--------|------------|
| Safale S-04 | Ale  | Slant | 500 ml | ---        |

### Extras

| Type   | Name                        | Amount | Use for   | Time     |
|--------|-----------------------------|--------|-----------|----------|
| Flavor | Skórka pomarańczy           | 100 g  | Boil      | 5 min    |
| Spice  | Przyprawa do piernika Kamis | 20 g   | Boil      | 5 min    |
| Flavor | Skórka pomarańczy           | 80 g   | Secondary | 7 day(s) |