

## FES #2 - Browar na Wyżynie

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- Gravity **14.5 BLG**
- ABV **6 %**
- IBU **36**
- SRM **33.1**
- Style **Foreign Extra Stout**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **6 %**
- Size with trub loss **21.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **24.6 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.2 liter(s)**
- Total mash volume **24.2 liter(s)**

### Steps

- Temp **64 C**, Time **15 min**
- Temp **72 C**, Time **45 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **18.2 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **15 min** at **64C**
- Keep mash **45 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **12.5 liter(s)** of **76C** water or to achieve **24.6 liter(s)** of wort

### Fermentables

| Type  | Name                           | Amount         | Yield | EBC  |
|-------|--------------------------------|----------------|-------|------|
| Grain | pale ale Viking Malt           | 4 kg (66.1%)   | 80 %  | 6    |
| Grain | monachijski typ II Viking Malt | 0.9 kg (14.9%) | 78 %  | 22   |
| Grain | pszenica prażona Viking Malt   | 0.2 kg (3.3%)  | 1 %   | 1100 |
| Grain | żyto prażone Viking Malt       | 0.2 kg (3.3%)  | 1 %   | 1100 |
| Grain | czekoladowy ciemny Viking Malt | 0.15 kg (2.5%) | 1 %   | 900  |
| Grain | płatki jęczmienne błyskawiczne | 0.6 kg (9.9%)  | 70 %  | 1    |

### Hops

| Use for    | Name                  | Amount | Time    | Alpha acid |
|------------|-----------------------|--------|---------|------------|
| First Wort | lunga (PL) - granulac | 25 g   | 100 min | 11 %       |

### Yeasts

| Name  | Type | Form  | Amount | Laboratory |
|-------|------|-------|--------|------------|
| us-05 | Ale  | Slant | 300 ml | ---        |

## Extras

| Type        | Name           | Amount | Use for | Time   |
|-------------|----------------|--------|---------|--------|
| Water Agent | Węglan wapnia  | 5 g    | Mash    | 70 min |
| Fining      | Mech irlandzki | 1 g    | Boil    | 15 min |