

## American Rye (Żytnie) z PK

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **31**
- SRM **4.7**
- Style **American Wheat or Rye Beer**

### Batch size

- Expected quantity of finished beer **24 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **30.4 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.6 liter(s)**
- Total mash volume **20.8 liter(s)**

### Steps

- Temp **67 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **76 C**, Time **5 min**

### Mash step by step

- Heat up **15.6 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **20 liter(s)** of **76C** water or to achieve **30.4 liter(s)** of wort

### Fermentables

| Type  | Name                      | Amount         | Yield | EBC |
|-------|---------------------------|----------------|-------|-----|
| Grain | Weyermann - Pilsner Malt  | 2.4 kg (46.2%) | 81 %  | 5   |
| Grain | Żytni                     | 1.2 kg (23.1%) | 85 %  | 8   |
| Grain | Strzegom Wiedeński        | 0.35 kg (6.7%) | 79 %  | 10  |
| Grain | Karmelowy Jasny 30EBC     | 0.25 kg (4.8%) | 75 %  | 30  |
| Grain | Weyermann - Pale Ale Malt | 1 kg (19.2%)   | 85 %  | 7   |

### Hops

| Use for             | Name         | Amount | Time     | Alpha acid |
|---------------------|--------------|--------|----------|------------|
| Boil                | Magnum       | 10 g   | 60 min   | 13.5 %     |
| Boil                | Enigma (AUS) | 10 g   | 30 min   | 17.2 %     |
| Boil                | Magnum       | 10 g   | 15 min   | 13.5 %     |
| Aroma (end of boil) | Enigma (AUS) | 10 g   | 0 min    | 17.2 %     |
| Dry Hop             | Enigma (AUS) | 30 g   | 0 day(s) | 17.2 %     |

### Yeasts

| Name            | Type | Form | Amount | Laboratory |
|-----------------|------|------|--------|------------|
| Fermentis us-05 | Wine | Dry  | 23 g   | Fermicru   |