

## piernikowe ale

- Gravity **15.4 BLG**
- ABV **6.5 %**
- IBU **65**
- SRM **12.3**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **11.5 liter(s)**
- Trub loss **10 %**
- Size with trub loss **12.7 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **15.9 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **16 liter(s)**
- Total mash volume **20 liter(s)**

### Fermentables

| Type  | Name                 | Amount         | Yield | EBC |
|-------|----------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt | 3 kg (75%)     | 80 %  | 4   |
| Grain | Caramel/Crystal Malt | 0.5 kg (12.5%) | 75 %  | 150 |
| Grain | Pszeniczny           | 0.5 kg (12.5%) | 85 %  | 4.2 |

### Hops

| Use for             | Name    | Amount | Time   | Alpha acid |
|---------------------|---------|--------|--------|------------|
| Boil                | Marynka | 25 g   | 30 min | 9.5 %      |
| Boil                | Marynka | 25 g   | 15 min | 9.5 %      |
| Boil                | Marynka | 50 g   | 5 min  | 9.5 %      |
| Aroma (end of boil) | Citra   | 50 g   | 0 min  | 12.6 %     |

### Yeasts

| Name | Type | Form | Amount | Laboratory |
|------|------|------|--------|------------|
| s04  | Ale  | Dry  | 11.5 g | ---        |

### Extras

| Type  | Name        | Amount | Use for | Time  |
|-------|-------------|--------|---------|-------|
| Spice | do piernika | 12 g   | Boil    | 5 min |
| Spice | goździki    | 2 g    | Boil    | 5 min |