

# Bitter Pokazy

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **23**
- SRM **10.2**
- Style **Standard/Ordinary Bitter**

## Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

## Steps

- Temp **68 C**, Time **70 min**
- Temp **76 C**, Time **5 min**

## Mash step by step

- Heat up **15 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **70 min** at **68C**
- Keep mash **5 min** at **76C**
- Sparge using **19 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

## Fermentables

| Type  | Name              | Amount       | Yield | EBC |
|-------|-------------------|--------------|-------|-----|
| Grain | Pilzneński        | 4 kg (80%)   | 81 %  | 4   |
| Grain | Cara Crystal      | 0.5 kg (10%) | 79 %  | 150 |
| Grain | Caramunich® typ I | 0.5 kg (10%) | 73 %  | 80  |

## Hops

| Use for             | Name     | Amount | Time   | Alpha acid |
|---------------------|----------|--------|--------|------------|
| Boil                | Fuggles  | 30 g   | 60 min | 4.5 %      |
| Boil                | Amarillo | 20 g   | 15 min | 9.5 %      |
| Aroma (end of boil) | Fuggles  | 30 g   | 0 min  | 4.5 %      |
| Aroma (end of boil) | Amarillo | 40 g   | 0 min  | 9.5 %      |

## Yeasts

| Name                       | Type | Form   | Amount  | Laboratory |
|----------------------------|------|--------|---------|------------|
| FM10 O czym szumią wierzby | Ale  | Liquid | 1000 ml | ---        |

## Extras

| Type   | Name      | Amount | Use for | Time   |
|--------|-----------|--------|---------|--------|
| Fining | Whirflock | 7 g    | Boil    | 70 min |

|             |     |     |      |        |
|-------------|-----|-----|------|--------|
| Water Agent | Sól | 7 g | Boil | 70 min |
|-------------|-----|-----|------|--------|