

Goryczk porażki

- Gravity **15 BLG**
- ABV **6.2 %**
- IBU **72**
- SRM **5.9**
- Style **American IPA**

Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **12 %/h**
- Boil size **28.2 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **19.5 liter(s)**
- Total mash volume **26 liter(s)**

Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **2 min**

Mash step by step

- Heat up **19.5 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **15 min** at **72C**
- Keep mash **2 min** at **78C**
- Sparge using **15.2 liter(s)** of **76C** water or to achieve **28.2 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt | 4.5 kg (69.2%) | 80 % | 5 |
| Grain | Pszeniczny | 0.5 kg (7.7%) | 85 % | 4 |
| Grain | Biscuit Malt | 0.5 kg (7.7%) | 79 % | 45 |
| Grain | Płatki owsiane | 1 kg (15.4%) | 85 % | 3 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------------------|--------|--------|------------|
| Boil | Columbus/Tomahawk/Zeus | 30 g | 60 min | 15.5 % |
| Boil | Citra | 20 g | 15 min | 12 % |
| Boil | Simcoe | 20 g | 15 min | 13.2 % |
| Aroma (end of boil) | Citra | 15 g | 5 min | 12 % |
| Aroma (end of boil) | Simcoe | 15 g | 5 min | 13.2 % |
| Aroma (end of boil) | Citra | 15 g | 0 min | 12 % |
| Aroma (end of boil) | Simcoe | 15 g | 0 min | 13.2 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------|------|------|--------|------------|
|------|------|------|--------|------------|

| | | | | |
|--------------|-----|-----|------|-----------|
| Safale US-05 | Ale | Dry | 22 g | Fermentis |
|--------------|-----|-----|------|-----------|