

# ŻLAPA v2

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- Gravity **10.5 BLG**
- ABV **4.2 %**
- IBU **41**
- SRM **5.3**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **8 %/h**
- Boil size **25.9 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **13.7 liter(s)**
- Total mash volume **17.6 liter(s)**

## Steps

- Temp **71 C**, Time **60 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **13.7 liter(s)** of strike water to **78.3C**
- Add grains
- Keep mash **60 min** at **71C**
- Keep mash **10 min** at **78C**
- Sparge using **16.1 liter(s)** of **76C** water or to achieve **25.9 liter(s)** of wort

## Fermentables

| Type  | Name                          | Amount         | Yield  | EBC |
|-------|-------------------------------|----------------|--------|-----|
| Grain | Pale Ale optima               | 1.5 kg (36.6%) | 81.6 % | 7   |
| Grain | Żytmi                         | 1 kg (24.4%)   | 85 %   | 8   |
| Grain | monachijski Typ I Viking Malt | 1 kg (24.4%)   | 78 %   | 18  |
| Grain | Słód Carahell (R)             | 0.2 kg (4.9%)  | 75 %   | 25  |
| Grain | Płatki owsiane                | 0.2 kg (4.9%)  | 85 %   | 3   |
| Sugar | cukier                        | 0.2 kg (4.9%)  | 100 %  | 2   |

## Hops

| Use for   | Name       | Amount | Time   | Alpha acid |
|-----------|------------|--------|--------|------------|
| Boil      | Amarillo   | 20 g   | 60 min | 9.5 %      |
| Boil      | Cascade    | 25 g   | 5 min  | 9.7 %      |
| Boil      | Chinook PL | 25 g   | 5 min  | 8.6 %      |
| Boil      | Cascade PL | 25 g   | 5 min  | 5.5 %      |
| Boil      | Citra      | 20 g   | 5 min  | 12 %       |
| Whirlpool | Chinook PL | 25 g   | 0 min  | 8.6 %      |
| Whirlpool | Cascade PL | 25 g   | 0 min  | 5.5 %      |
| Whirlpool | Citra      | 25 g   | 0 min  | 12 %       |

|           |            |      |          |       |
|-----------|------------|------|----------|-------|
| Whirlpool | Cascade    | 25 g | 0 min    | 9.7 % |
| Whirlpool | Amarillo   | 25 g | 0 min    | 9.5 % |
| Dry Hop   | Chinook PL | 25 g | 4 day(s) | 8.6 % |
| Dry Hop   | Cascade PL | 25 g | 4 day(s) | 5.5 % |
| Dry Hop   | Citra      | 30 g | 4 day(s) | 12 %  |

### Yeasts

| Name    | Type | Form   | Amount  | Laboratory |
|---------|------|--------|---------|------------|
| HotHead | Ale  | Liquid | 1000 ml | omega      |

### Extras

| Type   | Name        | Amount | Use for | Time   |
|--------|-------------|--------|---------|--------|
| Fining | Whirlfloc T | 1 g    | Boil    | 10 min |