

# IPA v17 #133

- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **66**
- SRM **6.1**
- Style **American IPA**

## Batch size

- Expected quantity of finished beer **18.1 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.4 liter(s)**
- Boil time **80 min**
- Evaporation rate **21.4 %/h**
- Boil size **25.1 liter(s)**

## Mash information

- Mash efficiency **79.6 %**
- Liquor-to-grist ratio **3.84 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **25.2 liter(s)**

## Steps

- Temp **65 C**, Time **60 min**
- Temp **72 C**, Time **20 min**
- Temp **77 C**, Time **7 min**

## Mash step by step

- Heat up **20 liter(s)** of strike water to **70.9C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **20 min** at **72C**
- Keep mash **7 min** at **77C**
- Sparge using **10.3 liter(s)** of **76C** water or to achieve **25.1 liter(s)** of wort

## Fermentables

| Type  | Name                    | Amount          | Yield | EBC |
|-------|-------------------------|-----------------|-------|-----|
| Grain | pilzneński - viking     | 1 kg (19.2%)    | 80 %  | 3.6 |
| Grain | pale ale - viking       | 2.4 kg (46%)    | 80 %  | 5.5 |
| Grain | płatki owsiane          | 0.2 kg (3.8%)   | 83 %  | 3   |
| Grain | pszeniczny - bestmalz   | 0.3 kg (5.8%)   | 82 %  | 5   |
| Grain | wiedeński - viking      | 0.85 kg (16.3%) | 79 %  | 8.6 |
| Grain | monachijski II - viking | 0.412 kg (7.9%) | 79 %  | 22  |
| Grain | cara gold - chateau     | 0.05 kg (1%)    | 78 %  | 120 |

## Hops

| Use for             | Name      | Amount | Time     | Alpha acid |
|---------------------|-----------|--------|----------|------------|
| Boil                | Warrior   | 15 g   | 60 min   | 14.7 %     |
| Boil                | Columbus  | 20 g   | 15 min   | 10.7 %     |
| Aroma (end of boil) | El Dorado | 50 g   | 5 min    | 14.2 %     |
| Aroma (end of boil) | Galaxy    | 20 g   | 5 min    | 17.4 %     |
| Aroma (end of boil) | Simcoe    | 20 g   | 5 min    | 12.9 %     |
| Dry Hop             | El Dorado | 50 g   | 2 day(s) | 9.5 %      |

|         |        |      |          |        |
|---------|--------|------|----------|--------|
| Dry Hop | Galaxy | 20 g | 2 day(s) | 17.4 % |
| Dry Hop | Sabro  | 30 g | 2 day(s) | 14.8 % |

## Yeasts

| Name                 | Type | Form  | Amount | Laboratory       |
|----------------------|------|-------|--------|------------------|
| FM52 Amerykański Sen | Ale  | Slant | 220 ml | Fermentum Mobile |
| 49-dniowa gęstwa     |      |       |        |                  |

## Extras

| Type        | Name                  | Amount | Use for  | Time   |
|-------------|-----------------------|--------|----------|--------|
| Water Agent | gips                  | 3 g    | Mash     | ---    |
| Water Agent | kwas mlekowy 80% [ml] | 4.43 g | Mash     | ---    |
| Water Agent | chlerek wapnia [ml]   | 0 g    | Mash     | ---    |
| Water Agent | epsom                 | 0.5 g  | Mash     | ---    |
| Water Agent | mech irlandzki        | 3 g    | Boil     | 15 min |
| Water Agent | kwask askorbinowy     | 4 g    | Bottling | ---    |