

# Milkshake IPA

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **36**
- SRM **4**
- Style **American IPA**

## Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **28.9 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.7 liter(s)**
- Total mash volume **23.6 liter(s)**

## Steps

- Temp **65 C**, Time **50 min**
- Temp **75 C**, Time **10 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **17.7 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **50 min** at **65C**
- Keep mash **10 min** at **75C**
- Keep mash **5 min** at **78C**
- Sparge using **17.1 liter(s)** of **76C** water or to achieve **28.9 liter(s)** of wort

## Fermentables

| Type    | Name                        | Amount          | Yield  | EBC |
|---------|-----------------------------|-----------------|--------|-----|
| Grain   | Pilzneński                  | 2.9 kg (46.3%)  | 81 %   | 4   |
| Grain   | Simpsons - Maris Otter      | 1.75 kg (27.9%) | 81 %   | 6   |
| Grain   | Płatki owsiane              | 0.9 kg (14.4%)  | 85 %   | 3   |
| Grain   | Weyermann - Carapils        | 0.18 kg (2.9%)  | 78 %   | 4   |
| Grain   | Weyermann - Acidulated Malt | 0.18 kg (2.9%)  | 80 %   | 6   |
| Adjunct | mąka pszenna                | 0.13 kg (2.1%)  | --- %  | --- |
| Sugar   | Milk Sugar (Lactose)        | 0.227 kg (3.6%) | 76.1 % | 0   |

## Hops

| Use for             | Name                   | Amount | Time   | Alpha acid |
|---------------------|------------------------|--------|--------|------------|
| Boil                | Columbus/Tomahawk/Zeus | 8 g    | 60 min | 15.5 %     |
| Aroma (end of boil) | Citra                  | 28 g   | 10 min | 12 %       |
| Aroma (end of boil) | Galaxy                 | 28 g   | 10 min | 15 %       |
| Whirlpool           | Citra                  | 42 g   | 0 min  | 12 %       |
| Whirlpool           | Galaxy                 | 42 g   | 0 min  | 15 %       |

|         |        |      |          |      |
|---------|--------|------|----------|------|
| Dry Hop | Citra  | 28 g | 5 day(s) | 12 % |
| Dry Hop | Galaxy | 28 g | 5 day(s) | 15 % |
| Dry Hop | Citra  | 42 g | 4 day(s) | 12 % |
| Dry Hop | Galaxy | 42 g | 4 day(s) | 15 % |

## Yeasts

| Name                    | Type | Form   | Amount  | Laboratory  |
|-------------------------|------|--------|---------|-------------|
| Wyeast - London Ale III | Ale  | Liquid | 1000 ml | Wyeast Labs |

## Extras

| Type   | Name          | Amount | Use for   | Time     |
|--------|---------------|--------|-----------|----------|
| Spice  | laska wanilli | 1 g    | Secondary | 3 day(s) |
| Flavor | mango         | 1500 g | Secondary | 3 day(s) |

## Notes

- Laktoza dodana na 20 min przed końcem gotowania
- Chmienie na whirpool prze 82 stopniach, hop steep przez 15 min.
- Pierwsze chmienie na zimno na burzliwą, czas 5 dni
- Drugie chmienie na zimno na cichą, 4 dni przed zabutelkowaniem  
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