

ORANGE BLACK ALE 20

- Gravity **15 BLG**
- ABV ---
- IBU **29**
- SRM **42.2**
- Style **Black IPA**

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 **10 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.4 liter(s)**
- Total mash volume **23.2 liter(s)**

Steps

- Temp **52 C**, Time **15 min**
- Temp **66 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **0 min**

Mash step by step

- Heat up **17.4 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **15 min** at **52C**
- Keep mash **45 min** at **66C**
- Keep mash **15 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **14.8 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------|---------------|-------|------|
| Grain | Pilzneński | 3 kg (51.7%) | 81 % | 4 |
| Grain | Żytni | 1 kg (17.2%) | 85 % | 8 |
| Grain | Strzegom Wiedeński | 0.2 kg (3.4%) | 79 % | 10 |
| Grain | Crystal Dark | 0.1 kg (1.7%) | 74 % | 158 |
| Grain | Pszeniczny Czekoladowy | 0.5 kg (8.6%) | 73 % | 1100 |
| Grain | Strzegom Czekoladowy jasny | 0.5 kg (8.6%) | 68 % | 400 |
| Grain | Strzegom Czekoladowy ciemny | 0.1 kg (1.7%) | 68 % | 1200 |
| Grain | Płatki owsiane | 0.4 kg (6.9%) | 85 % | 3 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|---------|--------|--------|------------|
| Boil | Cascade | 20 g | 60 min | 6 % |
| Boil | Cascade | 20 g | 30 min | 6 % |
| Boil | Cascade | 30 g | 10 min | 6 % |

| | | | | |
|-----------|---------|-------|----------|-----|
| Whirlpool | Cascade | 30 g | 0 min | 6 % |
| Dry Hop | Cascade | 100 g | 4 day(s) | 6 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------|------|-------|--------|------------|
| Safale US-05 | Ale | Slant | 100 ml | Fermentis |

Extras

| Type | Name | Amount | Use for | Time |
|--------|-----------------------------|--------|-----------|----------|
| Flavor | Pomarańcze | 1700 g | Boil | 10 min |
| Flavor | Pomarańcze | 2000 g | Secondary | 3 day(s) |
| Flavor | curacao | 20 g | Boil | 10 min |
| Flavor | skórka z pomarańczy, słodka | 50 g | Secondary | 3 day(s) |