

# black ipa

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- Gravity **15.9 BLG**
- ABV **6.7 %**
- IBU **58**
- SRM **29.3**
- Style **American 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 **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.3 liter(s)**
- Total mash volume **24.4 liter(s)**

## Steps

- Temp **62 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **18.3 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **60 min** at **62C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **14.2 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

## Fermentables

| Type  | Name                         | Amount         | Yield | EBC  |
|-------|------------------------------|----------------|-------|------|
| Grain | Viking Pale Ale malt         | 4.5 kg (73.8%) | 80 %  | 5    |
| Grain | Monachijski Ciemny Steinbach | 1 kg (16.4%)   | 100 % | 30   |
| Grain | Carafa III                   | 0.2 kg (3.3%)  | 70 %  | 1034 |
| Grain | Strzegom pszenica prażona    | 0.2 kg (3.3%)  | 70 %  | 1000 |
| Grain | karmelowy ciemny             | 0.2 kg (3.3%)  | --- % | 600  |

## Hops

| Use for             | Name                   | Amount | Time     | Alpha acid |
|---------------------|------------------------|--------|----------|------------|
| Boil                | Columbus/Tomahawk/Zeus | 30 g   | 60 min   | 15.5 %     |
| Boil                | Columbus/Tomahawk/Zeus | 10 g   | 20 min   | 15.5 %     |
| Aroma (end of boil) | Cascade                | 15 g   | 10 min   | 6 %        |
| Aroma (end of boil) | Centennial             | 15 g   | 5 min    | 10.5 %     |
| Aroma (end of boil) | Simcoe                 | 10 g   | 0 min    | 13.2 %     |
| Dry Hop             | Cascade                | 35 g   | 7 day(s) | 6 %        |
| Dry Hop             | Centennial             | 35 g   | 5 day(s) | 10.5 %     |
| Dry Hop             | Simcoe                 | 40 g   | 3 day(s) | 13.2 %     |

## Yeasts

| Name        | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale  | Dry  | 11 g   | Safale     |

## Extras

| Type   | Name           | Amount | Use for  | Time   |
|--------|----------------|--------|----------|--------|
| Fining | mech irlandzki | 4 g    | Boil     | 15 min |
| Spice  | kafir          | 10 g   | Boil     | 15 min |
| Spice  | kafir          | 5 g    | Bottling | ---    |

## Notes

- Herbatka z 5g kafiru dodana do piwa przed butelkowaniem

Piwo zajęło II miejsce w Finale Kuźni Piwowarów 2019 w kategorii Black IPA z dodatkami  
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