

# Forest BLACK ALE

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- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **44**
- SRM **32.4**
- Style **Black IPA**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.5 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **18.9 liter(s)**
- Total mash volume **24.3 liter(s)**

## Steps

- Temp **67 C**, Time **60 min**
- Temp **67 C**, Time **10 min**
- Temp **76 C**, Time **5 min**

## Mash step by step

- Heat up **18.9 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **10 min** at **67C**
- Keep mash **60 min** at **67C**
- Keep mash **5 min** at **76C**
- Sparge using **14 liter(s)** of **76C** water or to achieve **27.5 liter(s)** of wort

## Fermentables

| Type  | Name                        | Amount        | Yield | EBC  |
|-------|-----------------------------|---------------|-------|------|
| Grain | Pilzneński                  | 4 kg (74.1%)  | 81 %  | 4    |
| Grain | Strzegom Monachijski typ II | 0.5 kg (9.3%) | 79 %  | 22   |
| Grain | Płatki żytnie               | 0.4 kg (7.4%) | 85 %  | 3    |
| Grain | Black                       | 0.5 kg (9.3%) | 60 %  | 1350 |

## Hops

| Use for | Name                   | Amount | Time     | Alpha acid |
|---------|------------------------|--------|----------|------------|
| Boil    | Columbus/Tomahawk/Zeus | 20 g   | 60 min   | 15.5 %     |
| Boil    | Simcoe                 | 25 g   | 5 min    | 13.2 %     |
| Boil    | Citra                  | 25 g   | 5 min    | 13 %       |
| Boil    | Mosaic                 | 25 g   | 0 min    | 10 %       |
| Boil    | Galaxy                 | 25 g   | 0 min    | 15 %       |
| Dry Hop | Simcoe                 | 25 g   | 5 day(s) | 13.2 %     |
| Dry Hop | Mosaic                 | 25 g   | 5 day(s) | 10 %       |
| Dry Hop | Simcoe                 | 25 g   | 5 day(s) | 13.2 %     |

## Yeasts

| Name         | Type | Form  | Amount | Laboratory |
|--------------|------|-------|--------|------------|
| Safale US-05 | Ale  | Slant | 300 ml | ---        |

### Extras

| Type   | Name         | Amount | Use for   | Time     |
|--------|--------------|--------|-----------|----------|
| Other  | łuska ryżowa | 350 g  | Mash      | 10 min   |
| Flavor | peły sosny   | 80 g   | Secondary | 5 day(s) |

### Notes

- 25% wody do zacierania to woda Demi.  
*Apr 20, 2020, 10:51 PM*