

Abies alba

- Gravity **15.7 BLG**
- ABV **6.6 %**
- IBU **61**
- SRM **32.1**
- 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 **79 %**
- Liquor-to-grist ratio **2.75 liter(s) / kg**
- Mash size **17.9 liter(s)**
- Total mash volume **24.4 liter(s)**

Steps

- Temp **63 C**, Time **45 min**
- Temp **69 C**, Time **15 min**

Mash step by step

- Heat up **17.9 liter(s)** of strike water to **70.8C**
- Add grains
- Keep mash **45 min** at **63C**
- Keep mash **15 min** at **69C**
- Sparge using **15 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------------|---------------|-------|------|
| Grain | Weyermann - Dehusked Carafa III | 0.5 kg (7.7%) | 70 % | 1024 |
| Grain | Słód Caramunich Typ II Weyermann | 1 kg (15.4%) | 73 % | 120 |
| Grain | Colorado pale base | 5 kg (76.9%) | 79 % | 6 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|---------|--------|----------|------------|
| Boil | Polaris | 10 g | 60 min | 20.8 % |
| Boil | Simcoe | 25 g | 60 min | 13.1 % |
| Aroma (end of boil) | mosaic | 10 g | 20 min | 12 % |
| Aroma (end of boil) | Mosaic | 20 g | 5 min | 12 % |
| Whirlpool | Simcoe | 30 g | --- | 13.1 % |
| Whirlpool | Mosaic | 20 g | --- | 12 % |
| Dry Hop | Simcoe | 45 g | 3 day(s) | 13.2 % |
| Dry Hop | Mosaic | 25 g | 3 day(s) | 12 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------|------|------|--------|------------|
|------|------|------|--------|------------|

| | | | | |
|-----------------|-----|-----|--------|-----|
| Fermentis US-05 | Ale | Dry | 11.5 g | --- |
|-----------------|-----|-----|--------|-----|

Extras

| Type | Name | Amount | Use for | Time |
|--------------------|-----------------|--------|----------|--------|
| Flavor | Jodła - gałęzie | 24 g | Boil | 30 min |
| Flavor | Jodła - gałęzie | 10 g | Bottling | --- |
| "herbatka jodłowa" | | | | |