Black #19/20

- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **70**
- SRM **27.5**
- Style **Black IPA**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.9 liter(s)**
- Total mash volume **25.2 liter(s)**

Steps

- Temp **66 C**, Time **60 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **18.9 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **76C**
- Sparge using **15.2 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	5 kg *(79.4%)*	79 %	6
Grain	Strzegom Pilzneński	0.6 kg *(9.5%)*	80 %	4
Grain	Black Barley (Roast Barley)	0.3 kg *(4.8%)*	55 %	1050
Grain	Karmelowy Jasny 30EBC	0.2 kg *(3.2%)*	75 %	30
Grain	Weyermann - Carafa III	0.2 kg *(3.2%)*	70 %	1024

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	40 g	40 min	15.1 %
Boil	Palisade	20 g	40 min	7.5 %
Boil	Palisade	20 g	5 min	7.5 %
Boil	Cascade	20 g	5 min	5.8 %
Aroma (end of boil)	Cascade	30 g	1 min	5.8 %
Aroma (end of boil)	Centennial	20 g	1 min	9.4 %
Dry Hop	Palisade	60 g	4 day(s)	7.5 %
Dry Hop	Cascade	50 g	4 day(s)	5.8 %

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Dry Hop	Mosaic	50 g	4 day(s)	10 %

Yeasts

Name	Type	Form	Amount	Laboratory
FM52 Amerykański Sen	Ale	Liquid	200 ml	Fermentum Mobile

Extras

Type	Name	Amount	Use for	Time
Fining	irish moss	5 g	Boil	10 min

Notes

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