

20# DDH black lichtenhainer

- Gravity **7.3 BLG**
- ABV **2.8 %**
- IBU **54**
- SRM **17**
- Style **Grodziskie/Graetzer**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **8.7 liter(s)**
- Total mash volume **11.6 liter(s)**

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	2 kg (69%)	81 %	4
Grain	Grodziski pszeniczny wędzony dębem	0.5 kg (17.2%)	80 %	3
Grain	Viking Wędzony gruszą	0.2 kg (6.9%)	82 %	10
Grain	Carafa special	0.2 kg (6.9%)	70 %	1200

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Michigan copper	30 g	15 min	12 %
Boil	Sabro	30 g	15 min	15 %
Dry Hop	Michigan copper	150 g	2 day(s)	12 %
Dry Hop	Sabro	150 g	2 day(s)	15 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale BE-134	Ale	Dry	11.5 g	Fermentis