

## Gwoździe i banany vol.4

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- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **15**
- SRM **20.9**
- Style **Dunkelweizen**

### 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 **14.7 liter(s)**
- Total mash volume **19.6 liter(s)**

### Steps

- Temp **44 C**, Time **15 min**
- Temp **63 C**, Time **15 min**
- Temp **72 C**, Time **45 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **14.7 liter(s)** of strike water to **48C**
- Add grains
- Keep mash **15 min** at **44C**
- Keep mash **15 min** at **63C**
- Keep mash **45 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **15.5 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Wheat Malt	2.5 kg (51%)	83 %	5
Grain	Viking Munich Malt	1 kg (20.4%)	78 %	18
Grain	Viking Vienna Malt	1 kg (20.4%)	79 %	7
Grain	Strzegom Karmel 600	0.3 kg (6.1%)	68 %	601
Grain	Strzegom Czekoladowy ciemny	0.1 kg (2%)	68 %	1200

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	12 g	60 min	11 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M20 Bavarian Wheat	Wheat	Dry	11.5 g	Mangrove Jack's
FM41 Gwoździe i Banany	Wheat	Slant	250 ml	Fermentum Mobile