

## #21 Pale Ale z borówkami

- Gravity **13.6 BLG**
- ABV ---
- IBU **36**
- SRM **4.9**
- Style **American Pale Ale**

### 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 **15 liter(s)**
- Total mash volume **20 liter(s)**

### Steps

- Temp **68 C**, Time **40 min**

### Mash step by step

- Heat up **15 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **40 min** at **68C**
- Sparge using **15.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	5 kg (100%)	79 %	6

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	10 g	50 min	15.5 %
Boil	Columbus/Tomahawk/Zeus	10 g	15 min	15.5 %
Boil	Belma	35 g	7 min	9.4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
M29 French Saison	Ale	Dry	10 g	Mangroove Jack's

### Extras

Type	Name	Amount	Use for	Time
Flavor	Borówki	300 g	Boil	15 min