pszeniczne 50/50 z owsem i zytem

- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **23**
- SRM **3.9**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **3 %**
- Size with trub loss **25.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **6 %/h**
- Boil size **28.6 liter(s)**

Mash information

- Mash efficiency **78 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **13 liter(s)**
- Total mash volume **18.2 liter(s)**

Steps

- Temp **52 C**, Time **20 min**
- Temp **65 C**, Time **60 min**
- Temp **72 C**, Time **20 min**

Mash step by step

- Heat up **13 liter(s)** of strike water to **58.4C**
- Add grains
- Keep mash **20 min** at **52C**
- Keep mash **60 min** at **65C**
- Keep mash **20 min** at **72C**
- Sparge using **20.8 liter(s)** of **76C** water or to achieve **28.6 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Malt (2 Row) Bel	2 kg *(38.5%)*	80 %	6
Grain	Castle Malting - Pilzneński 6-rzędowy	2 kg *(38.5%)*	80 %	5
Grain	żyto	0.4 kg *(7.7%)*	85 %	10
Grain	owies	0.8 kg *(15.4%)*	80 %	2

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Cascade	25 g	60 min	6 %
Boil	Cascade	40 g	10 min	6 %

Yeasts

Name	Type	Form	Amount	Laboratory
mangrove Jack's M54 California Lager	Lager	Dry	22 g	uwodnione