

## Session IPA #1 - Browar na Wyżynie

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- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **41**
- SRM **4.1**

### Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **6 %**
- Size with trub loss **20.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **22.3 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.5 liter(s)**
- Total mash volume **18 liter(s)**

### Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **13.5 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **13.3 liter(s)** of **76C** water or to achieve **22.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	pale base Viking Malt	4 kg (88.9%)	81 %	5
Grain	płatki owsiane błyskawiczne	0.5 kg (11.1%)	50 %	3

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Junga (PL) - granulát	15 g	45 min	12.5 %
Boil	Amarillo (USA) - granulát	10 g	20 min	7.5 %
Boil	Cascade (USA) - granulát	10 g	20 min	7.1 %
Boil	Palisade (USA) - granulát	10 g	20 min	8.7 %
Aroma (end of boil)	Amarillo (USA) - granulát	20 g	1 min	7.5 %
Aroma (end of boil)	Cascade (USA) - granulát	20 g	1 min	7.1 %
Whirlpool	Amarillo (USA) - granulát	35 g	0 min	7.5 %

Whirlpool	Cascade (USA) - granulát	35 g	0 min	7.1 %
Whirlpool	Palisade (USA) - granulát	30 g	0 min	8.7 %
Dry Hop	Amarillo (USA) - granulát	35 g	3 day(s)	7.5 %
Dry Hop	Cascade (USA) - granulát	35 g	3 day(s)	7.1 %
Dry Hop	Palisade (USA) - granulát	30 g	3 day(s)	8.7 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM54 Gorączka kalifornijska	Ale	Slant	500 ml	---

## Extras

Type	Name	Amount	Use for	Time
Fining	mech irlandzki	4 g	Boil	15 min
Water Agent	siarczan wapnia	5 g	Mash	70 min
Water Agent	chlorek sodu	2 g	Mash	70 min
Water Agent	kwask mlekowy	4 g	Mash	70 min
Water Agent	woda demineralizowana	15000 g	Mash	70 min

## Notes

- Whirlpool start w temp 80C 30 min  
*Jan 10, 2018, 11:59 AM*
- Profil wody:  
Ca+2 Mg+2 Na+ Cl- SO4-2 Alkalinity Residual  
112.1 6.0 32.6 54.4 120.8 106.8 23.4

SO42-/Cl- ratio: 2.2 More Bitter  
*Jan 10, 2018, 12:08 PM*