

## IPA v21 #149

- Gravity **16.4 BLG**
- ABV **6.9 %**
- IBU **66**
- SRM **5.9**
- Style **American IPA**

### Batch size

- Expected quantity of finished beer **19.2 liter(s)**
- Trub loss **5 %**
- Size with trub loss **20.5 liter(s)**
- Boil time **80 min**
- Evaporation rate **19.3 %/h**
- Boil size **26.3 liter(s)**

### Mash information

- Mash efficiency **84.9 %**
- Liquor-to-grist ratio **2.84 liter(s) / kg**
- Mash size **15.1 liter(s)**
- Total mash volume **20.4 liter(s)**

### Steps

- Temp **65 C**, Time **60 min**
- Temp **72 C**, Time **20 min**
- Temp **77 C**, Time **7 min**

### Mash step by step

- Heat up **15.1 liter(s)** of strike water to **72.9C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **20 min** at **72C**
- Keep mash **7 min** at **77C**
- Sparge using **16.5 liter(s)** of **76C** water or to achieve **26.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	pilzneński - viking	2.5 kg (47.2%)	80 %	3.6
Grain	pale ale - viking	1.3 kg (24.5%)	80 %	5.5
Grain	płatki owsiane	0.3 kg (5.7%)	83 %	3
Grain	pszeniczny - bestmalz	0.3 kg (5.7%)	82 %	5
Grain	wiedeński - viking	0.1 kg (1.9%)	79 %	8.6
Grain	monachijski II - viking	0.4 kg (7.5%)	79 %	22
Grain	karmelowy30 - viking	0.3 kg (5.7%)	73 %	30
Grain	biscuit - chateau	0.1 kg (1.9%)	77 %	50

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Warrior	16 g	60 min	14.7 %
Boil	Columbus	20 g	15 min	13.9 %
Aroma (end of boil)	Simcoe	15 g	5 min	12.9 %
Aroma (end of boil)	Strata	20 g	5 min	15.1 %

Aroma (end of boil)	Citra	20 g	5 min	13.8 %
Aroma (end of boil)	Galaxy	20 g	5 min	15.9 %
Aroma (end of boil)	Mosaic	20 g	5 min	9.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
WLP090 - San Diego Super Yeast	Ale	Slant	175 ml	White Labs
30-dniowa gęstwa				

## Extras

Type	Name	Amount	Use for	Time
Water Agent	gips	3 g	Mash	---
Water Agent	kwask mlekowy 80% [ml]	4.49 g	Mash	---
Water Agent	chlorek wapnia [ml]	0 g	Mash	---
Water Agent	epsom	0.5 g	Mash	---
Water Agent	mech irlandzki	3 g	Boil	15 min
Water Agent	kwask askorbinowy	4 g	Bottling	---