Weissbier

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Recipe by **Nic Templeton**

Batch Size	Losses	Boil Time	Mash Efficiency	Mash Volume	Sparge Volume
45 L	**1.5 L**	**45 mins**	**75%**	**31.47 L**	**22.58 L**

OG (Plato)	FG (Plato)	IBU	Colour (SRM)	ABV
11.23	**2.21**	**10.8**	**3.4**	**4.79%**

Mash and Sparge volumes calculated using the "Grainfather G70v2" profile.

Fermentables

	Amount	Usage	PPG	SRM
Wheat Malt Supplier: BESTMALZ	5.20 kg (57%)	**Mash**	38.4	2.4
BEST Heidelberg (BESTMALZ) Supplier: Custom Fermentable	3.50 kg (38%)	**Mash**	38.7	1.5
Rice Hulls Supplier: Generic	0.40 kg (4%)	**Mash**	0.0	0.0

Mash Steps

	Temp	Time
Beta Glucan	40 °C	15 min
Acid	45 °C	25 min
Mash	64 °C	30 min
Mash	71 °C	30 min
Mash Out	77 °C	15 min

Hops

	Amount	Type	Usage	Time	AA
Hallertau Magnum (IBU: 10.8)	14.00 g (100%)	Pellet	Boil	45 min	14

Yeast

	Amount	Attenuation
Bavarian Wheat Product Code: 3638	1000 ml	73 %

Water Additions

	Mash	Sparge
Salt & Acid additions		
Lactic Acid 88%	15 ml	
Calcium Chloride	6 g	
Calcium Sulphate (Gypsum)	5 g	

Notes

Hello Nic,

Thank you for contacting Wyeast Laboratories and for using our yeast strains.

In attention your question about brewing a Hefeweizen, 3638 Bavarian Wheat is a great choice for this beer style. To achieve the bubblegum flavor and aroma which is a yeast byproduct during fermentation by combining esters (Isoamyl acetate (banana), ethyl butyrate (grape, apple), etc.) and phenols (4-Vinylguaiacol (Cloves)), there are some factors involved to consider besides the yeast strain to reach the desired specifications :

Ingredients: Wheat malt contributes to higher ester production and lower clove production, likewise if barley malt is used more clove production and less esters.
Mashing schedule: A rest at 113°F for 25 minutes will stimulate the 4-vinylguaicol phenol production if required, though not necessary if more esters are desired.
Aeration rate: Less aeration to the wort will induce ester formation.
Pitching rate: Under pitching increases ester formation, 5-10 million cells/ml.
Fermentation temperature: Knock out at 53°F and let it rise to 72°F for primary fermentation.
Vessel type: Open fermenters produce more esters than unitanks.
Yeast strain: 3638 will produce more Isoamyls acetate and 4-Vinylguaiacol than other yeast strains.

** Maybe add a rest at 40c/104f for beta glucan to promote less stuck mash