

2016/02/26 - Munich Helles

Name	Munich Helles		
Style	Munich Helles		Brew Date2016-02-26
Type	All Grain		Boil Size26.7 gal
IBU's	18.8		Batch Size24.0 gal
Color	3.6 SRM		Boil Time90 min
	Estimated		Actual
Pre-Boil OG	1.041		
OG	1.044		1.048
FG	1.010		1.010
ABV	4.5%		4.5%
Efficiency	85.0%		
Grain	32.0 lbs	Pilsner (2 Row) Ger92.8%	
	2.5 lbs	Munich Malt7.2%	
Mash	75 mins	150 F	Infusion
	10 mins	168 F	Mash Out
Hops	60 mins	6.0 oz	Hallertauer (4.0%)19.1 IBU
Additions	15 min	2.0	Whirlfloc Tablet
Yeast	8.0	Saflager W-34/70	
Fermentation	Primary	14 days	53.0 F
	Cold Crash	3 days	37.0 F
	Lager	28 days	53.0 F
	Bottle/Keg	0 days	37.0 F

Notes	<p>Double batch. Diluting to 24 gal.</p> <p>Water balanced to Ca: 54, Mg: 10, Na: 19, Cl: 75, SO4: 74</p> <p>Mashed with 12 gal instead of 13.</p> <p>Set HLT to 160. Mashed in and set HLT to 152. Pretty much perfect.</p> <p>Ph Mash: 5.4-5.5 Water PH: 7.5</p> <p>No mash adjustment done.</p> <p>Ended up using 3 oz hallertau 2011 7AA and 3 oz hallertau 2012 5.6%AA</p> <p>K, so massive boil over. Lost a lot. Ended up with 15g at 1054. Before boil. Only used 4 oz of hops. Rest was wet and garbage.</p> <p>Going to dilute with 4 extra gal to get 3 kegs.</p> <p>Ended up diluting with enough water to get 1048 some how. Weird.</p> <p>So, probably diluted with an extra 5-6 gal and ended up with about 18 gal in the carboys. All good considering.</p> <p>I'm curious about my efficiency. Might have been pretty high.</p> <p>Took about 48 hours to show any good sign of fermentation.</p> <p>After the morning of the third day it had a healthy crosen.(sp?)</p>
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