

2016/04/02 - Bitter Winter 4

Name	Bitter Winter 4			
Style	Extra Special/Strong Bitter		Brew Date	2016-04-02
Type	All Grain		Boil Size	13.8 gal
IBU's	36.9		Batch Size	12.0 gal
Color	9.0 SRM		Boil Time	60 min
	Estimated		Actual	
Pre-Boil OG	1.046			
OG	1.051		1.044	
FG	1.013		1.018	
ABV	5.0%		5.0%	
Efficiency	85.0%			
Grain	17.0 lbs	Pale Malt, Maris Otter • 2014 Fall		85.4%
	1.5 lbs	Weyermann Caramunich II • 2011 fall (1/2 sac) • 2014 spring (1/4 sac)		7.5%
	0.5 lbs	Cara-Pils/Dextrine		2.5%
	0.9 lbs	Caramel/Crystal Malt - 20L		4.6%
Mash	60 mins	152 F	Sacch' Rest	
	10 mins	170 F	Mash out	
Hops	60 mins	5.0 oz	Willamette (4.5%)	33.8 IBU
	15 mins	1.0 oz	Willamette (4.5%)	3.4 IBU
	0 mins	1.5 oz	Willamette (4.5%)	-
Additions	15 min	1.0	Whirlfloc Tablet	
Yeast	3.0	Safale US-05		
Fermentation	Primary	14 days	68.0 F	
	Cold Crash	2 days	37.0 F	
	Bottle/Keg	1 days	37.0 F	

Carbonation	Bottle Carbonation	29.2 psi	68.0 F
Notes	Balanced to Ca: 50, Mg: 11, Na: 19, Cl: 72, SO4: 73 Pre boil Sg: 1042 Post boil at 66f is 1044.		