Bru'n Water

Check for Bru'n Water Updates

Sparge Water Acidification Calculator

INPUTS				
Water Alkalinity =	46	ppm as $CaCO_3$		
Starting Water pH =	6.5	Standard Units		
Desired Water pH =	5.8	Standard Units		
Water Volume =	5.40	Gallons = ----->	20.44	Liters
Acid Type =	Lactic			
Acid Strength =	88	%		
OUTPUTS				
Acidity Required =	0.60	mEq/L		
Final Water Alkalinity =	16	ppm as $CaCO_3$		
Solid Acid required =	1121	mg or	1.12	gram
Liquid Acid required =	1.05	mL or	0.21	tsp
Sulfate added to water =	0.0	ppm		
Chloride added to water =	0.0	ppm		

Hover cursor over cells w/ red triangles to display helpful comments

Recommendations for Sparge Water: Low to moderate alkalinity is desirable for Sparge Water. DO NOT add minerals such as chalk, baking soda, or pickling lime to sparge water since these minerals increase water alkalinity. Sparge water is acidified to reduce pH and alkalinity. An alternative to adding these alkalinity increasing minerals is to increase the addition of calcium- or sodium-containing minerals (gypsum, calcium chloride, table salt) to compensate for the deletion of chalk, baking soda, or pickling lime from the sparge water mineral additions. Another option to avoid adding these alkalinity producing minerals to the sparge water is to reserve these minerals additions from the sparge water and add them directly to the kettle.

Bru'n Water

Water Profile Adjustment Calculator

Link to Bru'n Water website for updates and to donate

Hover cursor over cells w/ red triangles to display helpful comments

Desired Water Profile	Calcium (ppm)	Magnesium (ppm)	Sodium (ppm)	Sulfate (ppm)	Chloride (ppm)	Bicarbonate (ppm)	Cations (meq/L)	Anions (meq/L)	Total Hardness	Alkalinity (ppm)	RA (ppm)	SO_4/Cl Ratio
Yellow Balanced	50.0	7.0	5.0	75.0	60.0	0.0	3.3	3.3	154	0	-40	1.3
Existing Water Profile	4.0	0.9	30.0	9.0	19.0	54.1	1.6	1.6	14	45	41	0.5
Dilution Water Profile												
Distilled Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	
Dilution Percentage 100	128.0	oz/gal	8.0	pt/gal	< These conversions are provided for your convenience							
Diluted Water Profile	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0.0
Target Water Adjustment (ppm)	**50.0**	**7.0**	**5.0**	**75.0**	**60.0**	**0.0**	3.3	3.3	154			
Actual Water Adjustment (ppm)	**61.4**	**0.0**	**0.0**	**147.5**	**0.0**	**0.0**	3.1	3.1	154			
Finished Water Profile	61.4	0.0	0.0	147.5	0.0	0.0	3.1	3.1	154	0	-44	0.0

Total Water Additions

Water Additions								Mash		Sparge		
								Water Volume (gal)	3.5	Water Volume (gal)	5.4	
Mineral	**Addition (gram/gal)**	Calcium (ppm)	Magnesium (ppm)	Sodium (ppm)	Sulfate (ppm)	Chloride (ppm)	Bicarbonate (ppm)	**Total Mineral Additions (grams)**		**Total Mineral Additions (grams)**		Add $CaSO_4$ & CaCl to repla Lime in Sparge Water?
Gypsum ($CaSO_4$)	1.00	61.4			147.5			3.5		5.4		☑
Epsom Salt ($MgSO_4$)	0.00		0.0		0.0			0.0		0.0		
Canning Salt (NaCl)	0.00			0.0		0.0		0.0		0.0		
Baking Soda ($NaHCO_3$)	0.00			0.0			0.0	0.0		Not Recommended		
Calcium Chloride ($CaCl_2$)	0.00	0.0				0.0		0.0		0.0		
Chalk ($CaCO_3$)	0.00	0.0					0.0	0.0		Not Recommended		
Pickling Lime ($Ca(OH)_2$)	0.00	0.0					0.0	0.0		Not Recommended		
Magnesium Chloride ($MgCl_2$)	0.00		0.0			0.0		0.0		0.0		
Acid	**Addition (mL/gal)**				Sulfate (ppm)	Chloride (ppm)	Bicarbonate (ppm)	Total Acid Addition (mL)		Total Acid Addition (mL)		
Lactic	0.00	Strength	88.0	%	0.0	0.0	0.0	0.0		See Sparge Sheet		

Most mineral additions should be added to both the mash water and sparge water. DO NOT add alkalinity producing minerals such as chalk, baking soda, or pickling lime to sparge water since that counteracts the desired sparge water acidification. Either reserve those minerals from the sparge water and add directly to the kettle, or delete them and substitute other calcium or sodium containing minerals to make up for their contributions. Do not use the acid amount calculated for Mash Adjustment from this sheet for the Sparge Water adjustment. Use the acid amount calculated on the Sparge Acidification sheet for Sparge Water. **Add acid prior to heating the water.**

Bru'n Water

[Link to Bru'n Water website for updates and to donate]

Mash Acidification Calculator

Hover cursor over cells w/ red triangles to display helpful comments

Grain Acidity

		Mash Water Volume (gallons)	3.50	Batch Wort Volume (gallons)	5.00	
Grains	**Grain Type**	**Quantity (lb)**	**Quantity (oz)**	**Color (L)**	**Malt Color Units (MCU)**	**Acidity Contribution (mEq/L)**
2 Row Pale	Base Malt	8.0	1.0	2	3.2	0.3
Biscuit	Crystal Malt	1.0	1.0	23	4.9	0.6
Munich	Base Malt		14.0	9	1.6	0.2
Special B	Crystal Malt		3.0	180	6.8	0.6
Crystal 40	Crystal Malt		2.0	40	1.0	0.1
Crystal 20	Crystal Malt		6.0	20	1.5	0.2
	Base Malt				0.0	0.0
	Base Malt				0.0	0.0
	Base Malt				0.0	0.0
	Base Malt				0.0	0.0
	Base Malt				0.0	0.0
	Base Malt				0.0	0.0
	Base Malt				0.0	0.0
	Base Malt				0.0	0.0
	Base Malt				0.0	0.0
	Base Malt				0.0	0.0
Total Grist Weight (lbs)		**10.69**		**Total MCU**	**18.9**	
Water to Grist Ratio (Qts/Lb)		1.31		**Est. Beer Color (SRM)**	**11.2**	

Mash Acidity Results

Water used for Mash	Adjusted Water			**Net Water Alkalinity (mEq/L)**	-0.9
				Total Mash Acidity (mEq/L)	2.0
EBC Color Conversion Tool	20	**EBC ---------> (L)**	**8.0**	**Net Mash Acidity (mEq/L)**	**2.8**
				Estimated Room-Temperature Mash pH	**5.3**