

Water questions and some answers

Travis: Hey Mark,

I'm lost. I know that you helped me figure this out before but I can't remember how I came up with these numbers. On the water report I'm looking at Calcium and Mg as CaCO₃. They say 60 and 66. How do I convert that into just Ca and Mg. When I did it before I got 25 ppm for Ca and 15 for Mg or close to that anyway. But how?

Mark:

Ca is 40 molecular weight (mwt)

Mg is 24.3

CaCO₃ mwt=100

Ca = 100 /40 =2.5

Mg = 100/24.3 = 4.12

60 /2.5 = 24

66/4.12= 16

Mark

And then I asked John Palmer a question regarding his nomograph. Turns out that in the time between me asking Mark that question and me trying to figure out water chemistry again (must have been a couple years) I had reverted to using the wrong numbers for Calcium and Magnesium again.

Travis:

So I had a question about using the nomograph. I've attached a copy of our latest (I think) water report.

When I try to use the graph to calculate the calcium content needed to work backwards and start with an RA value of say 250, my line goes off the page. Now...I just brewed a stout using your spread sheet and added baking soda to the mash and kettle to get that RA value up (I calculated our RA to be minus 13 ish). I guess what I'm asking is if I should worry about using the graph backwards or just add some Bicarbonate to boost the alkalinity and then start playing with the chloride to sulfate ratio?

John "the Rock" Palmer:

Okay going from the April 10 line, your Ca converts to 24 ppm and your Mg is 16 ppm. Your total alkalinity is 68, so your RA is about 30 by the nomograph. If you want an RA of 250, and your Effective Hardness is about 26, then your needed Total Alkalinity is 280 ish. Try using the spreadsheet at howtobrew.com, as that does more for you.

I think the problem you were having was not converting the Calcium and Magnesium as CaCO₃ to Ca ppm and Mg ppm first.

Good Brewing,

John

PS, if this didn't help, ask again. ;-)