

What's all the pHuss?

by David Hester, Virginia

As a Hotline volunteer I get many questions concerning koi health. There are two topics that come up a lot. The first is pH and what it needs to be. The June issue of this magazine had a great article by our good friend Dr. Eric Johnson and I hope you read it; if not, put this down and go do it!

I often recommend adding baking soda to folks for various reasons. Debby and I religiously add Baking Soda to our ponds and QT system weekly. It always amazes me when asked the following questions: “won’t that raise the pH too high” or “someone told me that will kill my koi.”

My response: Since I raised a son, I am used to being disagreed with, but I will tell you that these “concerns” are a bunch of baloney.

To put my explanation into simple facts with a picture, I conducted another one of my famous simple not-so-scientific experiments. I started with a ten gallon aquarium, a pH test kit and a KH test kit (carbonate hardness/total alkalinity) and last – but not least – 10 pounds of good ‘ole Arm & Hammer Baking Soda.

First, I filled the tank with our well water and performed both test. Results were pH = 6.5 and KH = 3 degrees or total alkalinity of about 60 ppm. Next, I mixed in the whole ten pounds of baking soda and tested again. pH = 7.4 and KH = well over 50 degrees (or a TA over 800 ppm). I filled test tube up adding drops of reagent so the exact amount of KH is unknown. So, to recap, that’s ten pounds of baking soda added to ten gallons of water and the pH only went up 1 point to near neutral.

Now you see that pure baking soda will not cause the pH to spike or to crash. If one of these conditions happens, something else is wrong. By the way if you look at the picture, you might notice that the ten gallon tank is sitting on the edge

of our pond. For further proof, I next tested our pond and the results were pH = 7.5 and KH = 5 degrees or a TA of about 100 ppm. Have you guessed what I did next? Yes, I dumped the whole tank into the pond (13,000 gallons) and waited a half hour to ensure good water turnover and tested again. The results were pH = 7.5 and KH 9 degrees or a TA of about 180 ppm. The fish were still alive and still expecting food from me.



The June issue of this magazine also contained an article on Total Alkalinity by Dick Roemer. Read that too! Bio filters eat Carbonate Hardness for lunch, especially in rubber lined ponds and that’s why Debby and I add baking soda to our systems. We try to keep the TA at or above 80 ppm. Next to water, baking soda is the cheapest ingredient for proper pond care. We get ours in ten pound boxes at the local wholesale club. To be safe and sure, I recommend you stick with the stuff in the bright yellow box. I know many pool supply and water treatment places sell things like soda ash and some will even tell you it’s the same stuff, but it’s not. Soda ash will also spike the pH as well as the KH if you are not careful you could take out the filter and the fish in one fell swoop. ❖