

Basic Water Chemistry Cheat Sheet

1. pH Levels
2. Buffer Levels
3. Salt Levels
4. Bacteria

pH, buffers, salt and bacteria levels in your pond or watergarden are critical to maintain a healthy environment. If you are new to water chemistry, it can be a bit daunting at first. However, once you get it, you got it! Plus, here at Grass Roots, we want to see you succeed just as much as you do and we have your back. If you need any help, NEVER hesitate to ask! Let's get to it.

1. pH Levels

The acidity or alkalinity of your water is your water's pH. If it is too far one way or the other, it can be detrimental to your water's clarity and the health of your beloved fish.

What pH is the right pH?

You should keep your pH between 7.4 and 8.0

How often should I test my pH?

Once a week is a pretty common rule of thumb for testing your water. However, if you find your water in "rough" condition because of any number of reasons, you may find yourself in need of testing a few times in a week.

How do I lower pH?

We offer pH reducer in 3 different sizes here at Grass Roots. It is used at a rate of 1tbs per 500 gallons. This ratio will drop a pond's pH by .5 points on the pH scale.

Example: A 1500 gallon pond has a pH reading of 8.2. We know it is a bit high because we want to be between 7.4 and 8.0. If we add 3 tbs of pH reducer to this pond it will reduce the pH by .5 pH points getting us down to 7.7. Now we are right in the middle. Perfect!

How do I raise pH?

This question actually leads us into the second part of this water chemistry excursion, buffers.

2.

Buffer Levels

Essentially buffers lock your pH into place if they are at the proper level. If they are too low, your pH can fluctuate and cause inconsistencies in your water quality. If the buffer levels are too high, they can lock your pH into place at a higher level than desired.

What buffers level is correct?

Try and keep it at 100 on your test strips.

How often should I test my buffers?

Whenever you check your pH, check your buffers. Typically once a week would be considered normal.

How do I raise my buffers?

We offer buffer up in 3 different sizes here at Grass Roots. It is used at a rate of 1 tbs per 500 gallons of water. This will raise your buffers by 20 points.

Note: buffer up can also raise your pH. If your pH is low, odds are your buffers are low as well. Adding buffers can add those additional pH points you're looking for and stabilize it in place!

Example: A 1500 gallon pond has a buffer reading of 60 and a pH reading of 7.2. We know both our buffers and our pH are low. Adding 6 tbs of buffer up would be considered a double dose (3 tbs at 500 gallons/tbs is one full dose). This will get the buffers up to 100 and will drag that pH up with it.

How do I lower buffers?

More than likely if you have high buffers, you either have well water or you simply added too much buffer up. Don't stress it! We've all done it. A water change is the best way to lower your buffers. Instead of waiting for a good rain, simply pump out some water and replace it with fresh water.

Note: City water has heavy metals and chlorine that are detrimental for fish. When freshly filling a pond or adding more than 30% of the ponds volume, we recommend using a dechlorinator and heavy metal neutralizer to ensure happy and healthy fish.

3.

Salt Levels

Salt is a natural fish medication and is used to inhibit algae growth in your pond or watergarden. Though it's a freshwater system, the fish can handle higher levels of salt than you may think. Plus, they actually like it!

How much salt do you add to your pond?

1 pound per 100 gallons of water

Example: 1250 gallon pond with 0 salt could use 12.5 lbs of salt.

I already use an algaecide, can I use salt too?

NO. Please do not use salt within 2 weeks of adding algaecide and vice versa. The two additives combined can result in serious harm to your fish.

Why would I use salt over an algaecide?

We prefer salt because it's the more organic option. However, we provide algaecide in our store and many of our customers have had great success for many years!

What kind of salt do you use?

We use mineral salt because of its mineral content. There are other options that do not temporarily fog the water up, but we believe the minerals make it worth it!

What if I put too much salt in?

Assuming you didn't go to wild with the salt, you should be just fine! The fish can handle up to 4 lbs per 100 gallons of water.

Example: The fish in a 1000 gallon koi pond would be fine if you had 4 lbs/100 gallons of water.

Should I ever have extra salt in my pond?

We raise our ponds up to a minimum of 2lbs/100 gallons during our winterizing process in the fall. We won't be doing any water treatments during the winter months, so extra never hurts! We also add up to 3lbs/100 gallons when medicating fish. If algae seems to be taking over, after picking some algae out, adding extra salt can help you get rid of that unwanted algae.

How do I test salt?

Usually a meter is needed to accurately test salt levels. They can be pricey, but lucky for you Grass Roots offers free in house water testing.

4. Bacteria

There are so many different kinds of bacteria and we aren't going to be getting too sciencey here. The bacteria we are talking about here is beneficial bacteria that help your pond break down fish waste and organic matter, keep a healthy environment for your fish and help with water clarity.

How much bacteria do I add and when?

Typically, bacteria is added on a weekly basis.

What kind of bacteria do you use?

We use our bottled Beneficial Pond Bacteria from Grass Roots as well as our homebrew live bacteria.

Is there a shelf life on bacteria

Bacteria that comes in bottles is dormant and comes to life when put into contact with your pond water. Once a bottle is open, typically, it is good for 9 months or so. Grass Roots' fast acting live bacteria is barely good for 24 hours unless aerated. You buy it and then apply it!

Note: If you either need help getting it figured out or if you just don't want to do it, Grass Roots does offer services to either help you through the learning curve quicker or just do it for you. If you are in need of assistance drop a message to info@grassrootspondandgarden.com or give us a call at 734-753-9200.