

PRESIDENT CORNER

Pond Tour 2003 is almost here. Less than a month away. The Pond Tour Committee is doing an outstanding job. This will be our best Tour ever. Thanks for all your time and energy.

Spring is upon us and our aquatic pet's needs that special are. Check your water often, observe you fish, are they active or not, do they swim together or stay away by themselves? These are some of the things you should be doing. You can keep a log. This will help in knowing your fish better and their health.

Big thanks to Martha & Dan Cover for hosting our meeting this month and sharing your pond. Also another big thanks, to the Essigg's for our last meeting and a great pond. Don't forget about the AKCA Seminar in Atlanta this summer, June 26-29, excellent speakers and great vendors. This is an experience you will not forget.

For the love of Koi.

Bob Panter

Bob Panter, SAKA President

Koi Person of the Year



Kathy Leonard



I know that you are looking for a place to buy a ticket. Here is a list of all the Vendors that are selling tickets. If you attend our next meeting they will also be on sale their.

Carl Ragel's Natural Pools and Garden'
323-2627 Carl
2145 North Country Club Road

Fountain Centers
881-777 Lenita
2515 East Fort Lowell

Rancho Del Koi
886-8797 Tom & Sherrie Sherri
3400 South Saguaro Shadows

Tropics of Tucson
293-7500 Tim
801 East Fort Lowell

Magic Garden
88507466 Sandy
7009 East 22nd Street

Ponds Plants and More
292-6774 Sherrie
2060 West Ruthrauff

Reptile Specialists
795-0060 Jim or Tim
5030 East Broadway Blvd.

Mountain View Koi Fish & Aquatic Plants
520-378-3710 Lisa & Kurt
3828 Keeling Road Hereford AZ

Shaw Chiropractic
721-9331 Noel
1101 North Wilmot Road, Suite 229
(Above Trader Joe's)

Majestic Sea Life
320-7895 Tara
3250 North Campbell

Animal Fair Muriel
7215 East Golf Links Road

My Pet Counts
573-9967 Sharon
1787 Way Ajo Way

Harlow 's
886-5475 Jennifer
5620 East Pima

Sheldon's Landscape Center
529-0609 Sue
4999 North Sabino Canyon Rd

The following 3 articles were written by Ray Jordan. He has been a hobby for many years. I you get the opportunity to meet this man; you will be amazed by his knowledge and wiliness to share it. I hope you enjoy these articles as they go along with the current club education, as well as I hope these are items that are good for this time of year. All of the articles came out of **Ponderings" the Texas Koi & Fancy Goldfish Society**

Newsletter and can also be found on their web site at www.texaskoi.com
Thanks for sharing Ray.

You Might be over Feeding your Koi or Goldfish If.....

By Ray Jordan
Originally Published - May 2000

Many of the phone calls and questions I get concerning Koi or goldfish problems are directly or indirectly related to feeding. Most of this article will apply to both types of pond fish. However, there are some special considerations to feeding goldfish. Feeding is a much bigger topic to present than you might think. First and last, **everyone** feeds his or her fish **too much!** You do it and I do it. It is just so much fun to see them come to us and eat. But, we could be killing our pets with kindness. Please consider the following: _

You might be over feeding your fish if... (or feeding the wrong food)

1. Your water is cloudy or green
2. You see foam on the surface of your pond (Turn off your simmer if you have one for several hours)
3. Fish poop is floating instead of sinking

4. Your fish look more like sumo wrestlers than gymnasts
5. The white color in your adult fish is yellow or pink instead of bright white
6. Your fish start losing their color
7. There is unconsumed food more than 90 seconds after feeding begins
8. Your fish are getting sick or dying

The most common questions I get about feeding fish are:

Q – What should I feed my Koi/Goldfish?

A - Most hobbyists feed a basic diet of a manufactured Koi or goldfish food and supplement with fruits, vegetables, cereals, shrimp, krill, worms, etc.

You should feed a fresh high quality manufactured fish food as your fish's basic diet. Koi and goldfish need the same types of nutrients as we do. That is, they need carbohydrates, fats, protein, vitamins and minerals. Fish digest carbohydrates at a lower rate than we do and should receive very little fat. Koi & Goldfish do very poorly on fish food based on corn. Since corn is cheap some pond fish foods or catfish foods use it as the main ingredient. Avoid food that lists corn as one of the top four ingredients. Wheat and Wheat Germ is a much better main ingredient for Koi and Goldfish. Good foods will have about 32%-36% protein based on wheat germ, fish meal and/or shrimp/krill meal, sea weed (spirulina) soybean meal, assorted cereals and added vitamins. Fat should be 6% or less.

Look for vitamins: A, B1, B2, B6, B12, C & E. If your Koi or goldfish food doesn't clearly tell you what is in it they probably don't want you to know.

TIP: Look at the Champion fish at shows that have deep colors, bright whites, and strong body shapes then ask their owners what they feed their fish.

You want the freshest food you can buy and you need to keep it **fresh**. If possible buy food that has a manufactured or expiration date. Buy from a dealer that sells lots of food and therefore has fresh food. Buy in small enough bags that you can use it within 23 weeks of opening. Vitamin levels start dropping as soon as manufactured and even faster as soon as you open the bag. Do not let fish food get warm or damp. It will quickly spoil and

get moldy. Many times sick or dead fish can be traced directly to "spoiled" food. I recommend putting opened fish food in airtight containers such as a ziplock bag in the refrigerator. This will allow you to squeeze out the air each time you reseal the bag. If in doubt about your food being spoiled throw it out. I once visited someone that kept having fish die and I noticed some fish swollen from internal infections. When I saw a huge half used open bag of food in the tool shed I check it out. I found just under the surface of the food was a solid lump of moldy disgusting yucky stuff. The owner threw out the bad food and his fish health problems quickly disappeared. I know a big bag is cheaper but please believe me when I tell you it can cost you a lot more in the long run.

Q - How much and how often should you feed your Koi & goldfish?

A – Short Answer - Feed less total food per day and give more frequent feedings.

Long-Long Answer: Everyone I know feeds his or her fish too much! I do it and so do you. Koi and goldfish feeding should be based on a combination of water temperature and total weight of fish in your pond. Fish are cold-blooded creatures and cannot digest food once pond water drops and stays much below 50 degrees. In colder winter months Koi and goldfish in outside ponds become dormant. Yes, they will eat if fed but the food just passes through them and then pollutes the water and your filter system without doing your fish any good whatever. In fact, your biological filter is also mostly inactive below 50 degrees so any ammonia and waste produced by the undigested food cannot be process by your filter system. If ammonia or nitrite levels go high enough it can easily stress or even kill your fish.

Here is the feeding schedule I try to use. Use average weekly water temperature. Optimum water temperature is about 72-76 degrees for Koi and 75-80 degrees for goldfish.

- Ø Below 50 degrees – do not feed
- Ø Start feeding in spring as water warms and stays above 50 degrees. For first few weeks feed only every other day and very sparingly maybe 2-3 pellets per fish. Try to feed in late afternoon when water is warmest and fish will be better able to digest.
- Ø 50 to 60 degrees - Slowly feed to 1% of fish weight divided into two daily feedings if possible mid and late afternoon.

- Ø 60 to 70 degrees feed 1% - 2% of total fish weight divided into three daily feedings
- Ø 70-80 degrees feed 3 to 3-1/2% of total fish weight divided into 3-10 feedings.
- Ø 80-90 degrees feed 2% to 1% of total fish weight divided into 3-10 feedings
- Ø 90-100 degrees reduce feed to less than 1% total fish weight divided into two feedings. Feed early and late when cooler

According to this formula if you had 35 lbs. of fish in your pond (This is a lot of fish folks - about 44 - twelve in. Koi) and the water temperature is 75 degrees you could feed up to 1lb. Of food a day divided into 3-10 feedings. Remember this is the optimum water temperature and in our area you might only feed at this rate for 34 weeks in the spring and maybe about the same in the fall. For those of us that are gone during the day we are limited to feeding about three times. Before work, when we get home and then just before dark. On the days you are home you could increase the frequency of feedings. You might also consider using an automatic fish feeder for the mid day feedings. For example if you were going to feed 1 lb of food per day you should still do the first and last feeding to observe your fishes behavior to be sure they are "happy" and also that's one of the pleasures of having Koi. Use the automatic feeder to deliver the rest of the food allocated into feedings every 1-2 hours.

But how do you find out how much your fish weigh? Well you could guess or you could put one of average size in a plastic bag and sneak into the grocery store and.....

Or you can estimate each of your fish's length in inches and use the following chart to calculate each fish's weight and then add up the weight of all your fish.

(Example)

Koi Length/Weight conversion Chart*

Size	Wt/lbs.	# Koi	Total Wt.
6-7 in	0.15	3	0.45
8-9 in	0.23	3	0.69
10-11 in	0.5	3	1.5
12-13 in	0.8	3	2.4

14-15	1.3	3	3.9
16-17	2.0	3	6.0
18-19	3.0		
20-21	4.2	1	4.2
22	5.3	3	15.9
23	6.6		
24	7.9		
25	9.4		
26	11.5		
27	13.8		
28	15.3		
29	18.8		
30	21.6		
Totals		22	35.04

**Estimate based on length of "average" Koi. Adjust for fatter or skinner Koi. With Long Fin Koi and goldfish I would not include tails in the length estimates.*

There is some pretty interesting information in the chart above. Notice how the weight of fish increases almost logarithmically as the length increases. For example almost 50% of the total fish weight is the three 22 in. fish. If you really want to do the calculations and you have excel as a program on your computer check on the attached file an excel spreadsheet will do the work for you.

KOI-WEIGHT-CALCULATOR

With some fish foods such as Tetra Koi sticks almost all the moisture is removed so the food is very light weight. The calculation suggested above would not work with that type of food. In practice this chart and formula is just a starting point. You should look to your fish to tell you if they are getting the right nutrition. Healthy fish will have bright colors, and a very bright shiny white color. Their skin will almost glow and they will be very active and feed vigorously. Look to the clues listed in the beginning of this article for problems that suggest over feeding or poor nutrition.

I feed the amount of food I use by volume. For example, at optimum water temperature I feed my Koi about 2 cups

of food a day divided into as many feedings as possible. This weighs about ¾ of a lb. I measure the 2 cups into a zip lock bag each morning and then I can space out the feedings from that bag so that it lasts all day. This way I don't lose track and overfeed. We have a 100-gallon aquarium with 5 small oranda's. I feed ½ teaspoon of goldfish food daily divided into several feedings.

Q – What Feeding Supplements are recommended?

A - In addition to the basic manufactured Koi or goldfish foods I like to feed some additional foods to help insure my fish get a well balanced diet. Also many of these foods seem to be a real treat for the fish and they turn into a "Fish Tornado" when certain foods are offered. The things that my fish seem to like the most are freeze dried krill and baby peas. They go nuts when I offer these treats. You can buy Freeze died krill in most places where you buy fish food or it can be ordered. They also love canned baby peas (silver can of course). I just toss a handful to the fish a few times a week. I bet you can hear the slurping sounds of happy greedy Koi a block away. Koi can also be trained to eat romaine lettuce, oranges, Grapefruit, watermelon, cantaloupe, bananas, bell peppers, carrots, spinach, zucchini, Swiss chard, cooked rice and pasta, whole wheat bread and pinto beans.

I buy a jar of vitamin C powder from a health food store each spring and dissolve a teaspoon in a small amount of water and mix into the Koi food I feed for the first few weeks each spring. I believe this has helped cut down on spring disease problems and is very easy to do.

I bet you could tell me many other things that your fish eat as well. Many of the Koi magazines and web sites offer recipes for making your own fish food if you would like to experiment. Let me know how your fish like the homemade foods if you try any.

Special Foods

There are Koi and goldfish foods that are called "Color" foods. These foods contain coloring agents often "spirulina" which is from blue green algae and can enhance red colors. Color food is much more expensive and higher in protein than basic food. Therefore if used it should only be feed at optimum water temperatures an only for short periods of time. If you feed color food too long your fishes white color will turn yellow. Also color food only enhances

the reds so fish of any other color will not benefit. I personally, do not feed any color food. I save the extra expense and buy better basic food. This past spring I bought some paste food. I fed this once every other day along with the regular pellet food. The paste food was easy to mix into dough balls and I added vitamins C&E plus an immune booster. It seemed to work well and the fish thought it was great. You have to be careful with this type of food as it tends to make your Koi fat fairly quickly. You should not feed this alone but give in place of one feeding every other day or every third day.

Q – What are the special considerations for Goldfish Foods?

A - Goldfish definitely have some special requirements to consider when feeding. The fancier more rounded goldfish such as Ranchus, Orandas, and Ryunkins can develop a condition called floating disease.

No one is really sure what causes them to lose their ability to equalize the air in their swim bladders and start to float but this is by far the biggest problem I have with my goldfish. For this reason it is recommended to buy sinking goldfish foods. It is also a good idea to presoak the food in some water before feeding goldfish. If you have goldfish like orandas or lionheads with the special head-growth pattern. There are goldfish foods that contain the hormones to help stimulate this growth. If the growth gets excessive switch back to the basic goldfish food without the hormones.

Q – How can I train my Koi/Goldfish to eat out of my hand?

It is a special treat to train your fish to eat from your hands. This can also be a lifesaver if a Koi gets sick. You could feed medicated food just to that fish without treating your entire pond.

Before hand feeding remove all jewelry including your watch. As your Koi get bolder they will rub all over your hands and arms and can get scratched very easily by your jewelry. Quit feeding for several days to get your fish really hungry. At first the fish will be shy of your hands so place a small amount of food on the water near your hand and hold your hand in the water and stay very still. Don't bother to try this if your fish are small babies. Only the larger adults will be bold enough to approach your hand. As the fish begin feeding and become accustomed to your hand in the water start placing a few pellets very near your hand. Avoid sudden movements. As they approach you do not

try to pet them yet. Once they are feeding near your hand put the food only in your hand and again stay very still. It may take a few feeding sessions but soon the bolder fish will be willing to swim up and eat right from your hand. Later you can pet and rub them and let them suck on your fingers. I had a Koi that would let me lift it completely out of the water for a few seconds without trying to flop around. Some fish will never be bold enough to feed from your hands. The friendliest fish and ones easiest to train are an older variety called a Cha Goi. Which is a subdued brown colored Koi with beautiful black edging around each scale that appears like the fish is covered in netting. Goldfish seem to learn hand feeding faster than Koi.

Vacation Feeding

I have heard many sad stories of pond owners leaving on vacation and asking a neighbor to "feed" their fish. They frequently come home to over feeding disasters. I recommend that if you are leaving town for one week or less do not have your fish fed at all. You will probably be amazed when you come home to the prettiest cleanest pond water you have seen for quite a while. If you are going out of town for longer than one week. Cut back the feeding by ½ and carefully measure the exact amount of food you what fed each day into separate labeled ziplock bags.

Summary

Feeding your fish is a very important part of your responsibilities as a pond owner. Please do not over feed. If you are not into all the calculation stuff just start by cutting the amount of food you have been feeding in half. If your water gets clearer and your fish look and act happier in a few weeks then you know you are on the right track. Feed high quality fresh food and keep it fresh. Divide your feedings in to as many times a day as possible. Then sit back and enjoy your healthier and prettier Koi & goldfish.

Observation is Your Most Important Pond Keeper's Tool

By Ray Jordan
Published January 2001

In the colder months it is easy to become a complacent pond keeper. Most plants go dormant and to a certain extent so do your

fish. Because of cooler temperatures we feed fish less or stop feeding for a period of time. Also, because it is colder outside we spend less time watching our ponds and fish. This makes spotting problems more of a challenge.

Recently I was sitting by my pond and noticed some odd behavior. "Pearl" my large Shiro Utsuri (Black & White Koi) was having her lip suckled by another Koi. It almost looked like they were kissing. As I bent down closer to get a better look I saw a pink area on the outside of Pearl's mouth. Since pink isn't a normal color on this type of fish I wanted a closer look in case it was a scrape or something that needed to be treated.

I caught Pearl and found a raw bloody area about the size of a half dollar that was mostly hidden in the crease between her lip and jaw on the side of her mouth. Since I was not feeding much with the cooler temperatures I had not seen a problem until now. Luckily I saw the unusual behavior and a flash of pink something and decided to get a closer look.

I put Pearl and some pond water in a large cooler and could now see there was a problem that needed attention. I added an anesthetic to put her to sleep. Some of you may feel uneasy about putting your fish out in order to treat them but I feel it is much kinder and less stressful to both you and your fish than trying to wrestle with them.

The cheapest and easiest anesthesia to obtain is *Oil of Cloves* which is sometimes called "Eugenol." This can be purchased at most pharmacies or health food stores. Use 5-10 drops per gallon of water to be treated. (*Note - be sure to aerate the water vigorously when using anesthesia to insure your fish do not suffer from lack of oxygen while they are unconscious*) I usually start with about 5 drops per gallon and add more if the fish has not gone under in 10-15 minutes. For some fish you might need to add more drops to put them asleep. Also, I have occasionally heard that some oil of cloves may be "weaker" than others? Anyway, start low and go slow until you have some experience. The size of the fish only matters in that you will need more gallons of water to cover larger fish and therefore more anesthesia but the concentration per gallon will be the same for small or large fish. You can tell when the fish are ready by rolling them on their backs, if they do not struggle, you can begin work.

After treatment gently return fish to the pond or hospital tank. They will need to be cradled in your hands upright just under the surface until they are ready to swim on their own. This usually takes a few minutes. You can help them wake up by gently pushing them forward and backward to pump fresh water over their gills. After Pearl went under I was able to examine her thoroughly. I found several small red bloody places under the skin on her belly. Now I was really alarmed. These spots most likely indicate some type of internal infection.

More extensive treatment was now going to be required. Instead of a simple topical antiseptic treatment of the sore on Pearl's mouth, it was apparent that Pearl was in serious trouble and needed antibiotic injections and a few weeks in a heated hospital tank to stimulate her immune system. Systemic (internal) infections have to be treated early and seriously to be successful.

Here are the steps I went through to treat this infection.

First, I gave Pearl an injection of Amikacin which is a proven antibiotic for fish infections. Then I carefully laid Pearl on a plastic bag on the lawn and using several clean paper towels I wiped all the protective slime off the infected area near her mouth. This is so the antiseptic can saturate the infected area completely. However, you do not want to remove the protective slime from the rest of a fishes body so laying it on a plastic bag helps keep its slime intact. I use a strong (5%) iodine solution for an antiseptic. Drugstores usually only stock the weaker 2% iodine but you can ask them to special order the stronger 5%. Then I placed Pearl in my heated filtered hospital tank with Oxolinic acid (antibacterial power) added to the water. I also added salt at a rate of 1.5 lbs per 100 gallons.

Daily, for the next two days I anesthetized Pearl and gave her additional antibiotic injections. (*Note: It is important not to reapply antiseptic to the same area!*) Healing usually begins very quickly in fish and if you reapply antiseptic to the infected area you are destroying the thin fragile new growth of tissue and slime that is trying to cover and protect the area.

The red patches on her belly had disappeared and the sore on her mouth had started to fade and heal by the fourth day so I stopped the antibiotic injections and water treatments and continued monitoring to make sure she continued to recover.

After ten days she was back in perfect shape without even a hint of the earlier problems. I plan to leave her in the heated hospital tank for another two weeks just to be sure she is completely well.

A couple of additional comments regarding treatment of bacterial infections in Koi & goldfish. Unless you have great water quality and can raise the water temperature to 70 degrees you are likely to fail no matter what you do. Stress is the major culprit in fish diseases and the worse type of stress is caused by poor water quality. You need a treatment tank that has a healthy and active biological filter to be able to rehabilitate your fish in the best conditions. This means you need to have a couple of small fish that live in this tank at all times to keep the filter active. Also, you need to be able to heat the water to about 70 degrees. I use four 300 watt submersible aquarium heaters to heat a 400 gallon tank. It seems to take about 300 watts per 100 gallons. You will need to insulate your tank in some way and it will need to be covered with something to prevent the loss of heat and maintain a 70 degree temperature.

Also be careful about adding too much salt to your treatment tank. 1-2 lbs per 100 gallons is about right. If you add too much salt it will interfere with the healing process. A normal fishes skin and slime coat contains many types of "good" bacteria that help maintain its healthy condition. If you use too much salt or if you use antibacterial water treatments beyond the first few days be aware that you are making it more difficult for the beneficial bacteria to thrive as well.

A few years ago I learned a lesson when one of my favorite fish developed an infection. It was an expensive fish so I decided to get very aggressive with the treatments. I injected the fish daily with antibiotics, heavily salted the water to about 3-4 lbs. per 100 gallons and doubled the normal dose of antibiotic water treatment. Unfortunately, the fish did not respond well. The ulcer did not get worse but it did not start healing after a week of treatment. *(As ulcer's begin to heal the edges of the ulcer will turn white and the bloody tissue will darken. As the healing continues the entire ulcer area will turn white.)*

I repeated the treatments for a second week. I still couldn't see much improvement. This was unusual in my experience because fish normally get well pretty quickly or occasionally worsen and then the Koi die but again pretty quickly. I

called Andy Moo the owner of Andrew's Koi International in Anaheim, California. I told him what I had been trying and he told me I had been over treating. I stopped all antibiotic treatments and reduced the salt level to no more than 1 lb. per 100 gallons by doing a major water change. To my joy and amazement the fish started healing quickly and recovered completely.

I have learned to avoid the temptation to increase the recommended amount of treatment and follow the recommended dosages. Over use of antibiotics can result in killing the "good" bacteria not only in your filter but also on your fish.

Your fish's behaviors can tell you if something is wrong. You just need to be observant and "tuned" into their normal behavior patterns. If they are all acting similar and things appear OK the odds are everything is fine. However, if a fish acts different or hangs off by itself something is probably wrong. A pretty clear indicator of a problem is a fish that doesn't swim or feed with the other fish. One of the best times to observe your fish is while feeding. Look to be sure all your fish are feeding actively. Look at their open mouths and bellies and at their anal vent area for redness or sores. If in doubt about what you are seeing catch the fish gently and examine it carefully. Early detection is always the best prevention of more serious problems. Happy Ponderings

Help! My Water Has Turned Green!

By Ray Jordan
Originally Published - April 2000

I get lots of phone calls this time of year from pond owners distressed by having their pond water turn green which prevents them from seeing their fish. I have listed below some potential solutions to help get rid of the pea soup and clear up the water in your pond.

Population explosions of microscopic single cell plants called algae are the reason your water turns green. This is also referred to as an algae "bloom." These "blooms" happens most often in the spring and especially in new ponds as they start through their maturation process. These tiny plants have the same requirements as most other plants. They need sunlight, nitrates, carbon dioxide, oxygen, certain minerals, and water. If you deprive the algae of these necessities they will almost disappear. Before we explore some tactics

that will help rid your pond of the green water curse it is important to mention a few things about pond filtration. First, I do not know of any practical filtration system that can eliminate planktonic algae. Second, a poorly designed or inadequate filtration system can increase the likelihood that you will have problems with green water. Buy a set of pond test kits for Ammonia, Nitrite, and Oxygen to be sure your pond water is healthy for your fish. Also, there are chemicals that can treat the algae in your pond however; you are treating a symptom and not the cause of the problem when you dump a bunch of chemicals into your pond. Read the instructions if you go this route to be sure they are safe for your fish. **Be sure** you really know the accurate gallon capacity of your pond instead of your pond builder's "estimate". Most people over estimate the size of their ponds by a factor of 50% to 200%. If your pond is only 600 gallons and you treat for 1500 gallons you could kill your fish. The only accurate way to be sure of the size of your pond is to drain it and then fill while recording your water meter reading at start and finish. Do not use any water elsewhere while you fill your pond. The meter records cubic feet. To covert to gallons multiply by 7.5.

Sunlight: Reduce the amount of light that strikes your pond. Use plants like water lilies in your pond to shade about 60% of your pond's surface. Use landscaping such as trees or shrubs to shade your pond. Be careful of overhanging plants as they can drop leaves and other stuff into your water and cause other problems. Build a trellis or arbor to shade your pond. Again be aware that if you have light loving pond plants you do not want to prevent them from thriving. This is one of the biggest challenges of trying to keep fish and plants together under the optimum conditions for each. Most plants need lots of direct sunlight. Fish; on the other hand prefer lower light conditions.

Nitrates & Minerals: Nitrate is the end product of the nitrogen cycle that is critical to your fish's health. Fish produce ammonia which is converted by beneficial bacteria into nitrites and then into nitrates. The first two compounds are poisonous to fish while nitrate is relatively harmless except at very high concentrations. Minerals that plants need are supplied by fish waste and decomposing materials like leaves, etc. Nitrate is a necessity for plant growth. The more fish you have the more nitrate is produced. Also, uneaten fish food is broken down into Nitrate and adds to the problem. This is another very good reason to not over feed your fish. Also, reduce the

amount of nitrates by doing regular water changes about 10%-20% each week. During an algae bloom if you do water changes of about 25%-40% several times a week, you will quickly see an improvement in water clarity. *Do not forget to use declorinator.* Another issue is the fertilizer pellets used in your potted water plants. Be sure these pellets are pushed way down in the soil in your pots. Cover with rocks to prevent Koi from exposing them to the water directly which can cause another algae bloom. Plants that are living in your pond will also compete with the algae and reduce the amount of Nitrate available. Plants growing in soil like lilies and bog plants help but the best plants to remove nitrates are submerged plants like elodea or filamentous algae (blanket weed) that grows on the sides of your pond. I have read that filamentous algae secrete a substance that retards the growth of platonic algae as a way to insure clearer water and therefore more sunlight for themselves.

Carbon Dioxide and Oxygen: Plants such as algae use carbon dioxide and give off oxygen during the day. However at night they use oxygen and give off carbon dioxide. This is why fish kills happen at night or early in the morning when oxygen levels are at their lowest.

It is often said that green water is good for your fish but bad for "viewing" your fish. This is not true if your fish do not have adequate oxygen available. Be sure your pond water is saturated with oxygen if you have fish. This topic could be a separate article. Be sure your pond has plenty of aeration. This is supplied by using an air pump and air stones or a waterfall or better yet, both. A higher level of oxygen in water reduces the amount of carbon dioxide and the reverse is also true. Additional water plants also compete with algae for carbon dioxide in the same manner as with nitrates.

Water: Eliminating water would not be a tactic I could suggest.

UV Systems: Systems using special Ultra Violet lights are made specifically to kill planktonic algae in ponds. These units are very effective when sized correctly but are not inexpensive. The UV light kills the algae by affecting their DNA so that they die very quickly. UV units work and work quickly but it is very important that you set up the system to treat all the water in your pond at least every six hours to be effective. These units come with specific recommendations concerning total pond gallons and water flow rates through the

unit. Buying up one size is a good idea. The UV bulbs have to be replaced once or twice a year to be totally effective. Many hobbyists only run their UV units in the spring when algae blooms are more likely.

Barley Straw & other Stuff: I have read about using barley straw and lot of chemicals to get rid of green water algae. One commonly sold chemical dyes your water blue to cover up the green. It reduces the sunlight but is really more of a cover up and you still can't see your fish. When you drain and refill your pond the original problems that caused green water are still there so it starts all over again. If you want to try some of these "treatments" check out articles on different websites like AKCA.com and please be especially careful adding chemicals to your fish pond that are supposed to kill algae.

Summary: There is no reason you cannot have clean and clear pond water provided you try the steps listed above and give them ample time to work. If your pond is in full sun and you want to have your water lilies bloom profusely you may need to install an UV unit. Try to combine the suggestions listed above to maximize their effectiveness. Do not expect dramatic overnight results. Natural methods will work but take time. Four to eight weeks might be required. If you are impatient go for the UV system.

ARE YOU GOING TO



22nd AKCA Seminar 2003

The Atlanta Koi Club is hosting the 22nd Annual Associated Koi Clubs of America (AKCA) Seminar. For over 20 years, AKCA has been sponsoring seminars in exotic locales to educate Koi keepers from around the world in beautiful settings like Atlanta, home of the 1996 Olympics.



Hotel:

The Hilton Atlanta Airport & Towers will be our home for four days, June 26th-29th, 2003. The Hilton is a beautiful 4-diamond hotel conveniently located 1 mile from the Hartsfield Atlanta International Airport. We have negotiated a special room rate of only \$89 a night. Call for reservations at 1-800-Hiltons prior to June 1st.

List of Speakers and Topics

The more you know about Koi, the more there is to know. This series of seminars is being developed to introduce novices as well as advanced hobbyists to the intricacies of Koi keeping, pond building, and filtration concepts and methods. We're planning a varied series of speakers, panel discussions, demonstrations and workshops. Everything will be centrally located in the hotel conference center

AKCA Judging Committee:

Koi Judging Panel Discussion. This 2-hour follow-up to the slide judging is a question-and-answer session with the AKCA Judging Committee Panel

AKCA Judging Committee:

Live Koi Judging. View the live video and hear the judges' comments while judging approximately 20 Koi from Nishikigoi of Niigata as if it was an abbreviated Koi show.

Bill Mason

Georgia Ponds, Georgia:

Plumb It This Way for Pumps, UV's and Skimmers. Bill will share quite a few plumbing tricks that he's learned through his years of experience fixing ponds

Bob Brudd

AKCA Candidate Judge, Illinois:

Koi Buying Trips to Japan. Bob has put together an excellent presentation giving helpful advice to anyone planning a trip to Japan.

Bob Heideman

Aquatic Eco Systems, Florida:

Aeration. Bob is the founder of AES and an expert in the area of aeration. Learn how to determine how much air is needed and why

Bonnie E. Hale

Sunburst Ponds, N. Carolina:

Plants. Bonnie has over 30 years of landscaping experience and is well known for her selection of pond plants and expertise in caring for Koi and their health

Bryan Bateman

AKCA Candidate Judge:

Filtration. Bryan has written several articles for Koi magazines such as Mid-Atlantic Koi and is considered an expert in filtration

Burt Ballou

AKCA Judge, California:

New Technology and Products for Koi Keepers. Burt's expertise in pond construction shines through as he discusses all the new things for the Koi hobbyist.

Carl Forss

Koi by Keirin, Pennsylvania:

Pond Construction. Carl will show you some tricks and procedures needed to install a good quality Koi pond

Chris Neaves

South African Koi Keepers Society:

Koi Keeping in South Africa. As our Keynote Speaker Chris will begin by describing koi-keeping techniques in South Africa.

Chris Neaves

South African Koi Keepers Society:

Stress in Koi. Chris is a well-known expert when it comes to Koi health and will summarize the effects of stress on the health of Koi

Doug Dahl

AKCA/ZNA Judge, California:

Beginning Koi Tutorial. Doug will teach the basics of every aspect of Koi care, water, ponds, etc. in this new 4-hour presentation.

Doug Dahl

AKCA/ZNA Judge, California:

Koi Classification & Judging Criteria. Doug has presented this briefing alongside the show tanks at many Koi shows throughout the states

Dr. Erik Johnson,

DVM, Georgia:

Quarantine. A good quarantine procedure is getting more and more necessary, and Erik will tell you make makes up a good quarantine system and protocol.

Dr. Galen Hansen,

AKCA/ZNA Judge Certification Committee, California:

Koi Judging from Slides. Galen will start off this year's seminar with a 2-hour block using slides to describe how Koi are judged

Dr. Sandy Yosha

DVM, Univ. of Florida:

KHV, Viruses, Quarantine and Antibiotic Use in Koi. Sandy is well known among all the KHA's and will share her knowledge focusing on Koi Herpes Virus and what can be done

Joe Pawlak

Blackwater Creek Fish Farm, FL

Brett Rowley

Brett's Fish Farm, Texas:

Fish Farming. Joe and Brett team up to present a very entertaining and informative view of fish farming.

Joel Burkard

Pan Intercorp, Washington:

Tategoi. Joel will give you some detailed tips on how to select a Koi with great potential

Maureen Behrens

Pond Bloomers, Georgia:

Plants. Maureen is a longtime member supporting the Atlanta Koi Club is a well-known expert regarding water plants

Peggy Ferguson

The Pond Doc's Water Garden Center, GA:

Koi Research Using the Internet. Peggy will show everyone how to find out just about anything and everything about Koi on the Internet

Ray Jordan

San Antonio, Texas:

Showing Koi at the All Japan Koi Show. Ray will tell you about attending the All Japan Show and what's involved in showing Koi in this prestigious show.

Richard Chesler

Florida:

How To Recognize Show Koi. Richard will help the novice person interested in learning how to identify a show-quality Koi.

Spike Cover

AKCA, California:

Koi Health Advisor Program. Spike will provide an status update on the AKCA KHA Program. Beginning in July, Georgia will be one of the states in this program

Steve Childers

AKCA Judge, Texas:

Pond Design Dynamics. Steve will be joined by a panel of guests presenting some ideas on diffuser drains, TPR's, Skimmers, Midlevel drains, etc, and their placement for optimal effects

Tom Holder

Koi Care Kennel, California:

Understanding Pathogenic Bacteria. Tom developed Lymnozyme as well as other water treatments. Before you know what to use you need to understand the relationship of pathogens and Koi.

Trevor Cole

Pond Wise, Alabama:

Filtration...The Old Fashioned Way. Trevor Cole brings some traditional British views about filtration as with multi-chambered filter systems

Vicki Burnley

Univ. of Georgia:

Antibiotic Dip. Vicki will tell you about a new antibiotic dip that treats and heals bacterial infections and ulcers without injections

Seminars:

The more you know about Koi, the more there is to know. This series of seminars is being developed to introduce novices as well as advanced hobbyists to the intricacies of Koi keeping, pond building, and filtration concepts and methods. We're

planning a varied series of speakers, panel discussions, demonstrations and workshops. Everything will be centrally located in the hotel conference center. More details later.

Vendor Faire:

We have prepared a floor plan layout for 50 vendors 8'x10' spaces all conveniently co-located with the seminars, lunches and dinners in the hotel conference center. The Vendor Faire is free admission open to the Public

Sightseeing Tour:

Carter Center Library and

Museum: The Library consists of archives and a museum and is approximately 70,000 square feet in size. It is not a library in the usual sense but is a research facility and a museum. The archives is a repository of approximately 27 million pages of Jimmy Carter's White House material and papers of administration associates including documents, memoranda, correspondence, etc.

There are also 1 million photographs and hundreds of hours each of audio and visual tape. A recent addition is President Carter's Nobel Peace Prize that will be on display.

CNN Center: Tour the studios at The CNN center and see how CNN brings the world the news. To see an interactive view of the tour we will be taking, visit their web site at

<http://www.cnn.com/StudioTour>

Atlanta Cyclorama and Civil War

Museum: One of Atlanta's historic landmarks, the Cyclorama houses the world's largest painting "The Battle of Atlanta." The painting vividly depicts a charge led by General "Blackjack" Logan as well as other events occurring during that Civil War battle including the intense battle in the vicinity of the Troup-Hurt House. Although the painting accurately depicts the fighting, it definitely takes a Union perspective. General Sherman can be seen near the Augustus Hurt house while General Hood is not in the painting. For more information on the Cyclorama see: [Frommer's Atlanta: Cyclorama.](#)

Wet Lab:

The newest addition to the normal seminar events on Thursday will be a full wet lab conducted by Dr. Erik Johnson. Our plans are for every attendee to have a microscope and the University of Georgia will provide plenty of fish to use

Cost: \$60.00

Package I: Includes Entry to All Seminars, Friday Lunch, Saturday Lunch, Saturday Banquet, and Sunday Pond Tour (Box Lunch)

Single \$250.00

Couple \$375.00

SAKA NEWS

Package II: Entry to All Seminars only

Single \$175.00

Couple \$255.00

Money Saving Special

Early Bird Registration (before April 1 2003)

Save \$30 for Single, or \$50 for couple
First Time Special (never attended an AKCA Seminar)

Save \$50 for Single, or \$75 for couple

Additional Activities:

Thursday, June 26:

Sightseeing Tour \$60.00 per person

Carter Center Library and Museum: The Library consists of archives and a museum and is approximately 70,000 square feet in size. It is not a library in the usual sense but is a research facility and a museum. The archives is a repository of approximately 27 million pages of Jimmy Carter's White House material and papers of administration associates including documents, memoranda, correspondence, etc. There are also 1 million photographs and hundreds of hours each of audio and visual tape. A recent addition is President Carter's Nobel Peace Prize that will be on display.

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Lenox Square Mall

A bus will leave the hotel at 10 AM for an excursion to Lenox Square Mall. At Lenox Square are Macy's, Neiman Marcus, and Rich's as well as 230 specialty stores, kiosks, eateries and sit-down restaurants. This center boasts the most unique specialty retailers in the area with BCBG, Bally of Switzerland, bebe, Bernini, Brooks Brothers, Cartier, Hermes, Nicole Miller, Max Mara, St. John's Knits and Versace Jeans Couture. Included in the mall complex are fine restaurants such as the new Clubhouse, Brassiere le Coze and Prime. A 6-screen movie theatre, luxury hotel and a high-rise office building round out the property

Wet Lab \$60.00 per person

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Friday, June 27:

Cocktail Party Free for Package I

Friday Lunch \$30.00 per person

Saturday, June 28:

Saturday Lunch \$30.00 per person

Saturday Banquet \$50.00 per person

Sunday, June 29:

Pond Tour & Box Lunch \$45.00 per Person

New Club Web site!!!

Come visit it and make your comments. It is your site and I need your help. Go to

<http://www.sakoi.org>

Have Fun Surfing it.



Kawarigo Korum

Special Events Coming UP

April 27, 2003

Martha & Dan Cover

May 3 & 4, 2003

SAKA Pond Tour

May 18, 2003

Faye & Winton Hall

June 22, 2003

Laurel Nason

June 26-29, 2003



July 27, 2003

Kurt & Lisa Ogren

August 24, 2003

Dennis & Kathy Leonard

September 28, 2003

Rick & Barbara Shook

October 26, 2003

Linda Wallace

April 2003

November 7-9, 2003

24th SAKA Show

December 13, 2003

Open

We are looking for members to host the open dates. (Contact Tom Ayers) It is a great chance to show off your pond and everybody would like to see it know matter what the size is, big or small.

SAKA 10% Discount

With your SAKA Membership Card

Boyd Equipment Center

3625 S Country Club Road

Tucson, AZ

792-2244 or 1 (800) 844-2244

Mountain View Koi Fish & Aquatic Plants

3828 Keeling Road,

Hereford, AZ

378-3710

Ponds, Plants & More

(Near the corner of La Cholla & Ruthrauff)

2060 West Ruthrauff,

Tucson, AZ

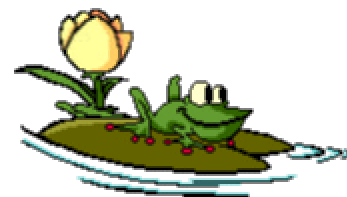
292-6774

Rancho del Koi

3400 S. Sagauo Shadows Drive

Tucson, AZ

886-8797



AL ZIMMERS

PONDS & SUPPLIES

6271 Perkiomen Ave

Birdsboro PA 19508

1-800-722-8877 or 1-610-582-9714

WWW.AZPONDS.COM