



# Southern Arizona Koi Association

Organized by those with the interest of raising and improving the quality of Nishiki Koi, and its culture. Promote better community and international relations for the better understanding of brotherhood among members through a common interest. To improve and promote the technology and education of Aquaculture

## April 2022 Newsletter

### PONDERING

#### Our Next SAKA Meeting:

May 21, 2022

At the Home of Barb Mattes  
3557 W Moonsong Pl  
Tucson, AZ

And subsequent gatherings:

17 June, Carollee Herndon

15 July, Potluck at Chappell Ranch

SAKA will reimburse a host up to \$50.00 for beverages and snacks served while holding a meeting.

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We had a pretty good turnout at this meeting today with 13 members attending. And we were blessed when Brenda introduced Kikuko-san, the original owner of the Koi in Brenda's pond. It was a pleasure for us to exchange a few words in Japanese!

We shared a lot of discussion with Brenda about her pond which is not yet clear. She has apparently upgraded to a larger pump motor. Her pond was clear when she had an umbrella plant in one of her side filter ponds. But when she had to remove it because of its size, the pond shortly thereafter clouded with algae.

So, there were several thoughts exchanged about what might be done to clear the pond. One thought was to add a UV Filter. UV Filters do a good job of killing algae, but it can also kill the bacteria in the pond, good and bad, bacterial, if the water flow through the filter is slow enough.

But in the meantime, Brenda was able to get a couple of new umbrella plants and has added them to the side pond. This time she says she will not allow them to grow so large before breaking them apart! Let's see if that clears up the pond!

Another issue was how to handle emergency power. The koi need oxygen added to the water. If power is lost they can normally exist without issue for a day. I have never experienced a power loss from TEP of more than about 30 minutes, but there is always a first time!

David Y has an emergency backup using 2 deep-discharge batteries, an inverter, and an uninterruptable power supply to drive an AIR PUMP blowing air through one or more air diffusers located at the bottom of the pond. A small air pump consumes a lot less power than your main water pump. David's setup can keep the air pump going for about 4 hours. In the past 15 years, the longest it has ever run was for about 2 hours.

Someone brought up the algae eating Plecostomus fish. Some have added them to their pond, but these fish cannot typically survive water temps lower than 60°. Somebody mentioned an alternate fish called Hifin Sharks. Here's a link:

[https://sunlandwatergardens.com/swg\\_products/pond-fish-hi-fin-banded-shark](https://sunlandwatergardens.com/swg_products/pond-fish-hi-fin-banded-shark)

This is an interesting looking fish! And might be an entertaining

addition to the pond! Here's a picture:



Advertise here— 1) join our club with a Commercial membership or 2) offer 10% discount to our members or 3) be a vendor at the show

## YUME KOI & GARDENS



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We might have to add one to our pond and see how it fares. I am not sure what we would do if it grew to be larger than our existing koi, however!

Kyle reported that he added water lettuce to his pond and then made some plumbing changes in order to add a UV filter. We will have to check back with him to see how that works out.

Koi food. Most of us use Ultra Balance koi food and it can be purchased locally at Vaquero Feed. Their business card is located just to the left on this page. David said that he simply uses the Maintenance food year round. It has less protein and may not enhance the fish growth as much, but it is more than sufficient to meet the requirements for the koi. I use that product as well as some Tetra Pond Koi Vibrance. And I also add plain cheerios for some added bulk.

Financial report:

Checking: \$8732.92

Savings: \$5349.81

Total: \$14,081.73

Our bank balance is pretty stable, but our only real income source right now has been membership dues. Our expenses are also not high. We have about \$450 in insurance costs and the occasional hospitality payment.

So, I am asking that you send in your membership dues for 2022 as soon as possible, please. You can send me a check made out to SAKA to 14235 E Placita Rancho Loma Alta, Vail, AZ 85641, or you can logon to our website at [sakoia.org](http://sakoia.org) to make a payment by credit or debit card. \$30 is for the whole family for 1 year. Thank you for your support!

## GREEN WATER AND STRING ALGAE

Green water and string algae are different forms of algae. Both can cause considerable problems for ponds through out the year. Green water differs from string algae in that it cannot be physically removed from the pond; whereas string algae are stringy or hair like, and can be physically removed.

### What Causes Green Water?

Green water is caused by the presence of millions of microscopic algae particles, each consisting of one cell. This algae occurs naturally in almost all bodies of water, and can be a problem in ponds during the spring and summer months. In order to grow, algae requires light and nutrients. An excess of either can result in heavy growth and very green water. The nutrients required for algae to grow are normally nitrate and phosphate. Green water is normally worse during summer months when days are longer, temperatures are warmer, and light is stronger. These factors greatly increase the rate at which green water can occur.

### What Causes String Algae?

String algae occurs naturally in almost all bodies of water and is encouraged to grow by the presence of phosphate, nitrate and sunlight. Phosphate is a vital component of fish foods and therefore enters the water through uneaten food and fish waste. Nitrate is produced as the end product of the biological filtration and through the natural breakdown of

organic matter in the pond. Nutrient concentrations tend to build up in the pond over time particularly in the summer when the fish are more active and being well fed. The increased sunlight plus these increased nutrient levels dramatically accelerate the growth of string algae with some species being capable of doubling its weight each day or two.

## Steps for Avoiding Green Water and String Algae Problems

There are a number of pond management techniques that can be called upon to help reduce the growth of algae:

- First, you should feed your fish only high quality fish food. Poor quality diets are not well digested by the fish, resulting in excess waste being produced that contribute greatly to a high nutrient load into the pond. This excess of nutrients will stimulate an increased growth of both types of algae.
- Adding plants to the pond can also help limit the growth of algae, since aquatic plants compete with the algae for the nutrients in the pond water. Water lilies in particular are great for this purpose, since their leaves help cover the ponds surface and shut out much of the sunlight required to stimulate the growth of algae.

Keep the pond bottom clean and clear of sediment. Decaying of this sediment increases the nutrient load for stimulating the growth of algae.

## Controlling Green Water

The most effective way to control green water is the addition of ultraviolet sterilizers (U.V. lights) to the pond water circulation system. These devices work by irradiating the pond water that flows through them with ultraviolet light. This ultraviolet light kills green water algae, allowing it to clump together, so that it can be separated from pond water by a filter. This is an excellent method of keeping a pond free from green water year around. It is important to size the ultraviolet light correctly, as its effectiveness depends on the contact time between the light and the water passing through. In general, an ultraviolet light should support a flow rate that allows the pond total water volume to pass through the light every hour. U.V. bulbs should be replaced every 12 months of bulb life even if they are still burning at that time. U.V. bulbs lose their efficiency over time and become less effective after 12 months life. The quartz sleeve containing the bulb may need cleaning periodically. If the sleeve gets exceptionally dirty, it will cut down on the amount of ultraviolet light effectiveness.

There are other means of removing green water if you do not have an ultraviolet light. These methods are more temporary. There are many products on the market for adding to pond water to remove green water algae. One I will mention is called AlgaeFix. This product when added, as directed to your pond water, causes the green water algae to clump, so it can be filtered out with a pond filter, or can be skimmed off the water surface with a skimmer net.

The addition of aquatic plants to compete with the algae for nutrients, and to shade the pond to deprive algae of essential light are two natural means of reducing the green water effect. A large water change will remove green water temporarily; however it returns rather rapidly.

## Controlling String Algae.

The most effective way of removing string algae is by mechanical means; however this method is distasteful to most people. Again, there are numerous products on the market that will kill string algae. AlgaeFix does a very effective job of killing string algae and eliminating green water when used as directed on the container. Other products containing sodium percarbonate are very effective on string algae in very shallow water, like streams and waterfalls.

Numerous plants in the pond will reduce algae by competing for nourishment from pond water. The addition of shade over the pond will decrease the growth of string algae, since it deprives it of needed sunlight in order to thrive. After the string algae are killed, you will need to remove the floating dead algae from the pond.