

## START-UP INSTRUCTIONS

To: All New TIC Teachers and Volunteers

**Important:** All Teachers and Volunteers setting up their tanks on a cabinet counter top- make sure the tank is close to level, front-to-back, side-to-side, or it will be prone to develop leaks.

After your Aquarium and Fluval filter are first set up and filled with water:

1. **Test your tap water** at the faucet/source that you used for filling your tank and will use for future water changes.

**READ, STUDY AND UNDERSTAND THE DIRECTIONS BEFORE YOU DO THE WATER TESTS AND USE THE BOTTLES OF CHEMICALS!!!**

Use your **API Freshwater Test Kit** to test for:

pH (acidity vs. alkalinity of your water),

NH<sub>3</sub> (ammonia),

NO<sub>2</sub><sup>-</sup> (nitrite),

NO<sub>3</sub><sup>-</sup> (nitrate).

(You are comparing test tube colors to a color chart.)

Use your **API GH and KH Test Kit** to test for:

GH (general hardness -calcium and magnesium levels),

KH (carbonate hardness - buffering capacity of your water),

(You are just counting drops until you get a color change.)

Record each of the tests immediately after it is done. (e.g. in a spiral notepad)

Post your tap water results on AZ TIC's Facebook webpage. We need to know your water source's baseline test results in order for us to advise you on how to do your water changes. Pictures of your tank set-up are helpful too.

For an example, here in downtown Scottsdale: pH is 8.0, NH<sub>3</sub> is 0.0 ppm.;

NO<sub>2</sub><sup>-</sup> is 0.0 ppm; NO<sub>3</sub><sup>-</sup> is 10-20 ppm. GH is 24 drops, KH is 12 drops

(12 x 17.9 ppm) =214.8ppm.

**2. NOVA AQUA:** Read the Label! This product removes the chlorine from your city tap water. Chlorine will kill your eggs, fish, and your bacterial bio-filter.

Add 4 Tablespoons (60 ml, 2 fluid oz.) to a full (55 gallon) tank of water at start-up.

Turn on the air pump and Fluval 406 filter that you have assembled and run them for 24

hours. You should have added the bag of Chemi-Pure to your filter before starting up the filter. Make sure that the 4 carbon bags in the filter are rinsed several times in a bucket of tap water to remove the carbon dust or it will be floating on top of your tank water.

After the filter and aerator have been running 24-48 hrs., repeat all of the 6 water tests and record your results.

### **3. MICROBE LIFT SPECIAL BLEND:**

Now you can add 60ml (4 Tablespoons, 2 fluid oz.) of Microbe Lift Special Blend bacteria to the tank water. Add 40 ml to the water once every seven days for 4 more weeks for a total of 5 doses. (i.e. day 8, day 15, day 22 and day 29.) Use the provided clear little plastic measuring cup, with the measurements on the sides. (You knew this already because you had read all of the directions on the bottle first!)

After the first 5 doses you will add 15 ml (1 Tablespoon, 3 teaspoons, 0.5 fl. oz.) every 2 weeks to keep your tank healthy.

Microbe Lift/ Special Blend provides the important bacteria that you need to start up your living bio-filter in your tank's gravel and in the foam pads of the Fluval power filter. (Yes, it stinks, but the smell dissipates rapidly.) These bacteria are vital for the breakdown of wastes from the fish and uneaten food.

**Suggestion:** get a calendar and mark on it the day of the week you added the first dose of Special Blend bacteria and every week thereafter for 4 more doses. Then mark in advance, on the calendar, every 2 weeks thereafter when you will need to add the Special Blend bacteria.

### **4. After 1 week, repeat the 6 lab tests once again and record them on your notepad.**

\*\*\*\*\* (You are now an expert Chemist!) \*\*\*\*\*

You should use this opportunity now to teach some of your best students to do the tests. (In surgery we have a saying "See One. Do one. Teach one.")

Let the upper grade level students teach each other. Have them do the tests in pairs with one reading the directions and checking that the other student is doing the tests correctly (i.e. counting the drops correctly).

(Color blind students shouldn't be reading the test results without help!)

### **5. Test the Trade Winds Chiller 2 weeks before you are scheduled to receive the trout eggs.**

Record the tank water temperature, Date, and Time of day, when you first start the chiller.

Then record the Date and Time of day that you first see the water temperature reach 52 degrees F- Fahrenheit (10 degrees C-centigrade).

You need to know how quickly your chiller can cool down a tank of room temperature water.

Now turn off the chiller. This allows the bacteria to grow more rapidly in warmer, room temperature, water. Start up the chiller 3 days or so before the eggs arrive. Allow enough time (with a few extra days) to make sure the water is at 52 degrees F when the eggs arrive.

**6. You should not need to do any water changes until after the trout eggs have hatched.**

When you start to do water changes, you will do them first, based on the (NH<sub>3</sub>) Ammonia levels, and second (several weeks later after your tank has cycled), based on the (NO<sub>3</sub>-) Nitrate levels ---more on this later.

You will start to do water changes when the NH<sub>3</sub> level rises above 1 ppm. The higher your pH level, the more toxic the ammonia will be. After your tank has cycled you will do water changes when nitrates near 80 ppm.

You will need to add ½ teaspoon of NOVA AQUA to de-chlorinate, remove the chlorine from each 5-gallon bucket of water you change.

**7. Before the eggs arrive**, please cover the end of your filter's intake tube with a nylon stocking and a rubber band to keep from sucking up stray eggs, sac-fry/alevin, and “baby “trout.

You will remove the stocking only when the yolk sacs on the fry have been absorbed and the baby trout have increased in size and are swimming vigorously enough to avoid being sucked into the filter intake.

**8. Teachers** - keep in touch with your volunteers via e-mails, ask them questions. They are here to help you.

**Volunteers** - communicate with your volunteer partners, and your teacher. Check on the aquarium's progress. Ask the teacher if he or she needs any help or has questions for you. Visit the classroom a few times so that the kids get to know you.

**Teachers and Volunteers** - Post your questions and the progress of your fish on our TIC Facebook page. Don't wait to be asked. Post pictures and videos.

Most of all, have fun learning, and raising trout in your classroom!

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