

## Your Affordable Backyard Tilapia Hatchery Technology:

- ❖ **Where do you get your breeding tilapia to begin with?** There are tilapia in many local rivers and lakes. Get a cross net or a friend with a cross net, a couple of buckets, and you are in business. Go to your nearest lake, cow pond, or standing body of water, or ask locals if they know where there are tilapia or other fish. Cross net the body of water, pick out the biggest, healthiest looking fish, and put them in the buckets. Tilapia are breeding age when not much more than 1/2 lb in size, or 8" or so in length. Males have TWO rearmost apertures, and females have THREE. You want a ratio of two females for every male in your breeding tank.
- ❖ **Breed Your Own! Method Number One:** You must have a **minimum** size 300-gallon fish tank in your backyard-sized aquaponics system for this to work (anything smaller, and the fish will be so crowded they **won't breed!**). First, you need to put a vertical mesh barrier "corral" made from half-inch plastic mesh across one end of the tank, about 12 inches in from the end. This barrier completely blocks the end of the tank from top to bottom so no fish can jump over, pass under, or get by on the sides.

The purpose of this barrier is so the half-inch long babies (which can **easily** swim right through the half-inch mesh!) can shelter there and not get eaten by the larger 2-3" long fish in the same tank on the other side of the mesh barrier. **How to make this barrier:** This barrier is made with half-inch plastic mesh from Home Depot or a hardware store; fasten a piece of 1/2 inch PVC pipe that will span all the way across the top of the tank to the top of this mesh with some heavy nylon monofilament fishing line; and fasten a piece of 3/4 inch rebar (that is two inches shorter than the bottom of the tank is across) across the bottom of the mesh with the same heavy nylon monofilament fishing line. Make sure the sides of the mesh are long enough so that they overlap onto the sides of the tank two to three inches on each side. **Breeding habitats:** Put two pieces of 6" PVC pipe that are 12 inches long each (these are the **breeding habitats** for the tilapia) on the bottom of the tank on the "big" side away from the mesh corral, and the tilapia will take care of the rest for you.

Once or twice a month, you will need to go through the "small" side of the mesh barrier "corral" with a 1/4 inch mesh dip net and dip out all the tilapia in there that are **too big** to swim back out through the mesh, these fish will be one and a half to two and a half inches long. Just put these "big guys" on the big side of the tank; they will **not** be able to swim back through the mesh and eat the little guys. This is how you give the little guys a protected area inside the tank to grow in without getting eaten. To make the "small side" of the corral more attractive to the newly-hatched tilapia, you can put some "water weeds" such as water hyacinth into the "small" side of the tank for the tilapia fry to shelter under; a natural behavior for them. You can hatch babies and raise big fish all in the same tank! We use this method in one of our Micro Systems, and it works really well!

- ❖ **Breed Your Own! Method Number Two:** Put 8 to 10 total of select breeding tilapia (two females to one male) in a **separate** minimum 300-gallon tank that has the same two PVC pipe breeding habitats, but **no** mesh "corral". This tank has two or three airstones in it, and is **not connected to any aquaponics system!** This is what's called a "greenwater system", because the water in the tank becomes green from all the algae that grows in it. This is what you want! The only sneaky thing about this is that you have to totally dump the tank water and refill with clean water about twice a year, so the tank water doesn't go anaerobic and kill all your fish. You need another tank (or kid's plastic swimming pool) to move your fish to while you do this, you **can't do it** with them in the tank.
- ❖ **You also need two 55-gallon plastic barrels,** which are connected to your greenwater fish tank with a small (2-3gpm) submersible water pump located in the bottom of the fish tank, which pumps water up and into the first barrel through a 3/4-inch piece of tubing. Then the water flows by gravity through a 1-inch PVC pipe between the two barrels to the second barrel, then it flows by gravity from the second barrel back to the fish tank. Can you visualize that? This is so that the fish tank water is also the water that's in the two barrels. One more picky little detail: you need to put a screen filter in each barrel on the PVC pipe where the water goes out so the little fish don't migrate from barrel #1 to barrel #2, or from barrel #2 back into the fish tank.

Feed your breeding fish, keep the water temperature in the fish tank higher than 72 degrees F, and when the babies appear (about a half inch to three-quarters of an inch long) scoop them off the top with a fine-mesh scoop net (1/32 inch mesh is a good size) before any larger ones can eat them. Put these little ones in **barrel #1**. Net the tank again with a scoop net with larger (1/2" mesh is a good size) and get all the little 2-3" ones out, because these will eat all the babies the big ones can produce, and put these 2-3" guys in **barrel #2** separately from the babies in barrel #1. Remember the screens between the barrels so the little fish don't flow through to the other barrel or the big tank. The half-inch fish will grow to 2-3" in size within a few months. The 2-3 inch fish will grow to 4 inches, at which point it's safe to throw them into your **backyard aquaponics system fish tank**, because they're big enough to survive with the bigger fish there; or **sell them** to someone who's starting up a home aquaponics system.

- ❖ **WARNING; Here's a possible problem with setting up a home tilapia hatchery!** There are tilapia hatcheries and growers that sex-reverse **all** their tilapia fry shortly after hatching with a hormone: methyl testosterone. There are other growers that use what's referred to as "super-male" technology, which does not utilize hormones, but is said to produce 98% male fish as offspring.

Even if you ask, they may not honestly inform you if your fish have been sex-reversed. Why is this a problem? Well, think about it: if you bought fish from one of these growers, you will have a tank full of **all-male fish**. They may eat a lot of food, they may get big and fat, but they will **never, ever**, lay a single egg! So, it is buyer beware here if you are trying to find tilapia breeding stock. **Just remember, you need to set up a coed dorm!**