Raising Tilapia at home

Trying to be self-sufficient in these troubled times is not easy, though it probably never has been easy. One has to be very thrifty and capable of doing most thing themselves. We have been raising 95% of all of our own food which is comprised of lots of vegetables and different kinds of meat animals. Adding farm raised fish to the table would be another satisfying and sustainable source of food and fertilizer. Using a grow bed filled with pea stone that is constantly being irrigated with the fish water can grow plants very well, and at the same filter the water of toxic ammonia and nitrates. In the beginning I was nervous about the wellbeing of the fish and the fear that so much could go wrong. The books and other reading I did made it sound like one "had" to keep the water at one set temp, that the PH couldn't fluctuate, and many other imperative instructions. It is true if you want to have full out production of the fish but for starters there is all kinds of room for errors. I know, and later into the months I did lose some fish, but if one pays close attention to simple details they will be successful.

I bought my first 60 3/4" tilapia fingerlings through the mail from a place in Iowa, called TilapiaHybridPair.com. The fish arrived as I was forewarned. All fish arrived healthy and eager to start eating, even though one package arrived very damaged, all the fish were fine. I had a 5 gallon pail with some water in it that was taken from their new home, a 55 gallon aquarium and slowly acclimated the fish to the new water by adding new water slowly. I made sure to have the temperature of the waters as close as possible. Once they were in their new home, they adjusted quickly and were eating regularly. They grew fast. The challenge of raising the fish in aquariums is maintaining water quality. I have found many of the conventional water filters for aquariums cannot handle any amount of fish

waste. AquaClear seems to be the better of all them since the foam filter can be used over and over, saving a lot on filters. I tried a Marineland Emperor 400 Bio-wheel but replacement filters are expensive. Making your own sand or pea stone filter seems to be the best way. I'll detail this further later on. While the fish were growing, I set up an insulated 175 gallon food grade fish tote that was used to store large quantities of fish and scallops. It was perfect for the aquaponics system I had in mind. There is much information on the web about this. I spent the $50 for a book called Aquaponics Food Production, by Rebecca Nelson. It was very informative and is what I used for the guide and at the time the only one out there, hence the price. I have seen it since for $30. I then built a strong table stand with a food grade flood table that fit into the stand. In this I filled the table with washed pea stone. Washing the stone was laborious. The weight of the stone is huge as well, so make sure the table can support the weight. Once it was all assembled, I made an air lift for the water circulation. This was very simple and worked without any troubles for the duration of the year. I used a piece of 1-1/4" PVC with one 1/4" air line going into the bottom of PVC about 3/4" from the very bottom. The water pumps itself up to a manifold that distributed the water from the fish tank into 5 1/2" PVC tubes going the length of the bed. Each

of these tubes had a 3/16" holes drilled every 10" or so. Once it was all assembled, I let it run for a few days so as to make sure it was fine before putting the fish into the tank. Once the fish were in the tank, it took a while to get the bacteria growing in the stones. I added some bacteria laden gravel from an aquarium which might have helped speed up the process. In the meantime, I bought all the water testing kits at a local aquarium store. PH, ammonia, nitrate and nitrite test kits cost about $40 and they have lasted for more than 8 months, except the PH test kit. Buying a PH meter is a good idea if you have the extra money to spend. I will eventually get one, but for starters the $6 test kit works fine. Once the fish and the grow bed were established and the water had been circulating for a couple weeks, I added romaine lettuce seedlings that I started in "Rockwool" cubes. I will say that in the beginning , the fish were small and weren't providing that much nutrients for the plants. Also water temperature in the tank was varying from day to night. This probably wasn't great for the fish and some I think were stunted from the process. As the hottest summer on record wore on, keeping the fish tank

water cool was an issue as well. Mostly by adding some well water each day. The whole system was working very well as the summer progressed, except one summer night when the ambient temperature was in the 90's, the air supply line came apart and cut off the oxygen to the system. Since the tank's water was warm, about 82 F, and the fish were in the 5" range by then, using lots of oxygen. I came out in the morning and had lost 22 of them. I was heartbroken but soon realized the answer to the simple problem. Have multiple air pumps connected to different electric circuits. Even with this loss, the plants in the grow bed grew like wild fire. Peppers did very well, but it was mostly romaine and Vivian lettuce, with some celery and swiss chard. All in all it did great. Very small investment. I still have about 36 fish left in varying lengths. I have moved them into my basement for the winter. The fish are divided into multiple tanks with five or six fish in each tank. Hoping that I have some that will reproduce as the winter comes on. I will then raise the fry if all goes well. Come spring, I will set things up similar to what I had but

larger. I have not been able to eat any of the fish yet though I've eaten a lot of lettuce, but that's okay. If I can replenish the fish I started with I will be thrilled. I also grew a lot of duckweed, as can be seen in the picture to the right. That was just one small tray of it. I had a whole kids swimming pool that was thriving. I kept a layer in the fish tank for them to eat and also scooped some out for the ducks and chickens which relished it. I have red wiggler worms growing as well. The fish love these the most of everything. Chop them up, as awful as it is to do so. I bought my first feed from the fish suppliers but it was expensive. I later bought 10 lbs if Ziegler high protein food on EBay from a fish farm. I later still tried using a fish food that Tractor supply, a grain and feed store sells. The fish never cared for it and it made the water cloudy. Now I am back to using the Ziegler from a place on EBay. 20 lbs of 1.5 mm high protein food for $25 plus $16 in shipping.

Winter has been a cold one with much snow and ice along with single digit temps. The different fish tanks in the basement have all done well. I later moved the 175 gallon tank inside and set that up with the larger of all fish. I have maintained the 82 F or 29.1 C water by put a small hydroponic submersible water circulating pump in the tank and circulating the water through a large hot water storage tank that is used in my house. I searched a long time for temperature controller that would monitor and display the actual water temp and would turn on circulating pump. The prices were very high everywhere, all over the $125 range. Instead, i took a chance at

buying one from Hong Kong through EBay, using Pay pal for $15.00 plus $10 air mail! It seemed to good to be true but I got it in the ten days and it was exactly what I needed. Has a 10 amp relay for heating and one for cooling. I wired it into a common plastic double outlet box with an outlet. Works perfect! I can't say enough about this and am ordering more of these. It opens up all different possibilities for heating with hot water. In my case, I make hot water with wood boiler and firewood is free for the labor. I will be able to use this controller thermostat to maintain temperatures for seedling mats and chick brooders, saving on electricity. I have many available for resale as well.

I have yet to have any new fry born, though there has been several of the females which appeared to be carrying the eggs, but for some reason, after several days swallowed them. I am preparing to construct one new tank in the greenhouse that will be divided in to three compartments. This will be heated by a barrel stove that has copper coil wrapped around it with water circulating into a large storage tank. This will maintain the 78 degrees in the grow out tanks. More to come.

Spring has sprung here in the Nor-east RI. All of the fish had weathered well over the winter inside the basement. I have the large 175 gallon tank that is being heated with hot water. The water is kept at 29.1 C and the mostly male fish have grown to over a pound and half! One of the fish managed to jump through the safety net and was on the floor flapping around, so I put it in the refrigerator and later filleted it for dinner. I never did get to purging this fish so we were expecting a possible muddy taste, because it was full of waste. I took the filets and dipped them in egg and then a light bread crumb dusting and quickly fried them. We were ecstatic over how good it was! Truly, we could live on them, if that is how they all will be, and i am sure they'll be even better when we purge them before eating. It was such an assurance that after so much effort raising these fish that they are a good source of food. I would think as time goes on, and I am better set up for raising them, it will become more efficient of food source to raise. I never did get any new fry this winter and there are theories why not. I will try another breed from a different source. I am planning on building a new larger 600 gallon insulated tank and raising as many new fish as possible. Updates will follow.

I did not build the 600 gallon tank but instead found several used fiberglass lobster holding tanks. I found this tank pictured here, 6'x10'x2' one for $200. This is a 900 gallon tank. I did fiberglass some of the large PVC ports. The lobster business in RI has diminished to only the hardy and best fisherman. So there are many of these tanks available. I am setting it up so that it will be heated with dividers for the different size fish. I have been waiting for my new fry from White Brook that I ordered April 14th. I know that I am anxious since my season is very short. I have finally been able to hatch some fry. I stripped one female of her eggs and wasn't sure if they would hatch, but quite a few did. they are in a large jar with air and heater and will move to a larger 10 gallon tank. I have been feeding them finely crushed fish food and brine shrimp that i was lucky enough to have a neighbor that grows frogs in his basement and he had the live shrimp on hand. I was amazed at how small the fry are when they are first hatched. They are practically unnoticeable if the water isn't perfectly clear or algae on the glass. Infact I mistook a few of them for some kind of insect larvae. They are very small, like a 1/4 of an inch and it is the two eyes that are most notable. I would like to be able to put a photo of them here. Thanks for all the responses to this page. I realize now that there are many other people out there trying to grow fish.

I finally got the fry from White Brook second week of June, 6 to 7 weeks after they said I would initially get them. They finally arrived by very expensive overnight mail of $83, and did not get them till the very end of the next day. When I ordered the fish from the tilapiahybridpair place, they sent the fish priority which was 3 to 4 days, which they still arrived

good condition and it was included in the price of $120 for 65 1" fingerlings. Out of the batch of which was supposed to be 100 fingerlings, I lost 20 first couple weeks. The PH wasn't high enough I guess for their fish and maybe they were weak. I never lost a one from the order from tilapiahybridpair a year ago. Also the instructions from White Brook said leave the light on for 24/7 but that seemed like a lot of stress for the fish. I cut it back to the usual 18 hour day and they did much better. Now the

fish are about 2"long. I will be able to count them accurately soon. I moved most of the older large fish to the lobster tank where they are growing even more. The big news though is that I have had several successful spawns from the fish from tilapiahybridpair, one right after the other. The past year I have been wondering whether I had missed seeing the fry being born and then they were eaten. Well, that is wrong, because when I saw all of these fry at the surface, there was no missing them. So I know now that when they spawn and the fry are swimming free, you'll see them, no mistaking that. Here is the photo I took of them when I scooped them out with the little net. I have over 300 from these last two spawns. I have been fortunate to have a neighbor that works at Yale raising frogs and he's been bringing live brine shrimp for the fry. I have not seen that mentioned in any instructions but the fry go wild over them and go on an eating frenzy. So now I have about 350 new fry. It is clear that the only way to make raising fish feasible is learning how to breed and produce your own fry or having a club or group of us to share fry when needed. Depending on the few suppliers is setting up for failure, not to mention impractical. To buy the fish from White Brook they ended up being $2.75 each. There is no way one could ever raise them at that

price and sell the filet at much of a profit. So the thing to do is to buy breeding pairs and get your own fry, which so far has been tricky. A couple of things that I have learned is to put the aquariums out of traffic areas where they can be quiet and not disturbed. The large clay flower works well, and some other plastic flowers or sections of 4" PVC 6" long stack and tied together for the fish to hide in.

Summer is already showing signs of turning the corner into fall, here in the boonies of RI. The fish grew much larger with the space afforded by the large lobster tank. I recently purged the older orange fish in clean water and harvested them. I am used to harvesting meat and am always upset and or uncomfortable doing so, but I have to say netting the large tilapia fish that I have been taking care of for a while, was sad, and waiting for them to finally die is a drag. But, I will say the fresh fish was excellent to eat and revived the quest to produce quality food. I am now moving the larger White Brook fish that I got in June into individual breeder tanks and hope for some fry over the winter. I have been selling off the fry I hatched a couple months ago from the orange tilapia, only to local pick ups. Now that the White Brooks are larger, I know that I never did receive the 100 3/4" fingerlings as I ordered but only 73. I kept track of every single one that I lost. I am sorry to have to bring that up, but people should try to count their fingerlings when they get them. I know I am very disappointed. I have sold many of the White Brooks to people close by hoping we can get some success with breeding amongst one of us so that we don't have to order them anymore.

Not much good news with my White brook fish. The male to female ratio was very high, close to 90%. The fish do grow fast, I will say that, and that must be because they are all males. I did not buy this fish though for meat but for breeding. What I will say now is that I would never buy these overpriced fish again, and have suggested others buy blue tilapia from Ebay.. I feel this is better because they are backyard people selling them, so they have not altered the fish in any way. This way you know you will get a normal percentage of females and males that have been breeding at much less money. To this day, I am down to about 6 females of the white

brooks and they have not once shown any sign of holding eggs. I regret selling the orange tilapia that did spawn last year and regret paying a lot of money for the White Brooks. I have about 30 of the White brooks that are males and are quite large.

I look forward to any comments and input from others.

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