



## Sustainability Key in Florida Family's Aquaponic Farm

By Carles Leon Ramos

Last February, Dr. James Rakocy, Donald Bailey and myself, had the time to visit an interesting aquaponic farm located in Polk County in the state of Florida, USA. The name of the farm is: **Aquaorganics**. We had the luck to find, the owner, Mr. Mike Musoke, there and he gave us a tour of his farm and explained the sustainable methods they used in building and in also the efforts they are making every day to operate it!

Aquaorganics is a family farm that puts the emphasis on recycling and sustainability. From using sunlight to power the pumps to reduce the carbon footprint, down to the seeds they grow, they try to reuse as many resources as possible.

Aquaorganics grows vegetables and herbs with the help of the fish they raise. The water from the fish culture is used to fertilize the vegetables. Fish such as tilapia, koi, African cichlids, other ornamental fish and vegetables are all grown in a closed recirculating system so all the nutrients are used and no waste is discharged to the environment.

In keeping the operation sustainable, Aquaorganics installed solar panels to run their pumps and air blowers. Aquaorganics uses the principles of the University of the Virgin Islands (UVI) aquaponic raft culture design that Dr. Rakocy and the UVI staff created.

The difference is that they grow their fish in rectangular concrete tanks inside a greenhouse. Water



*Michael Musoke (Marketing Manager of Aquaorganics farm) presenting his products at a local farmer's market.*

flows through a series of filtration units to separate settleable solids and to mineralize nutrients for improvement of plant uptake. Then the water flows through six hydroponic raceways (deep pool technique) that they constructed with sand and covered with liner.

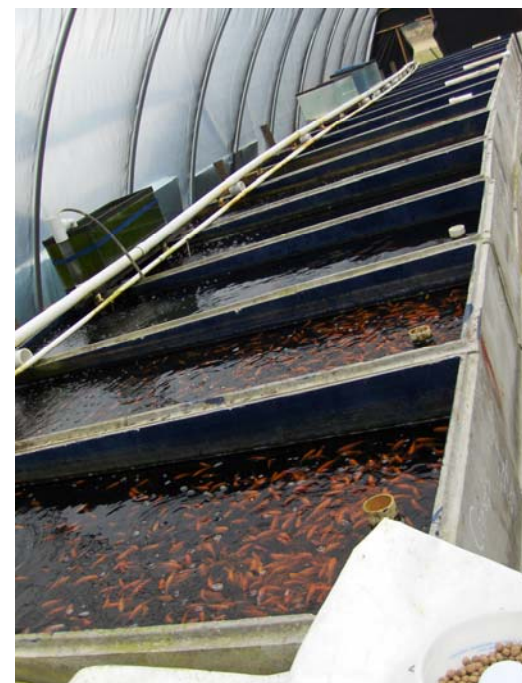
Aquaorganics owner, Michael Musoke, shares, "Together with my parents, Barbara Loeding and Leland Cuellar, we have decided to grow back to the earth. We created AquaOrganics to address a few basic questions challenging our future. These questions being:

- How could we be of service to humanity?
- How could we be stewards of our environment?
- How could we be economically sustainable?"

"We concluded it would be a service to humanity and the environment to offer people locally grown



*Left-to-right: Donald Bailey, Dr. James Rakocy and farm owner, Michael Musoke, at the Aquaorganics farm in Polk County, Florida. Notice the solar panels, which run the pumps and blowers, in the upper right corner of the picture.*



nutritious food so we settled on aquaponic farming. Aquaponics is the creation of an ecosystem that combines hydroponics and aquaculture. We raise edible fish such as tilapia and tropical ornamental fish such as koi, African cichlids and others. We also grow varieties of lettuce, basil, cilantro, other herbs, and other veggies are on the way! This type of production recycles the nutrient input and recirculates the water, significantly reducing daily water consumption, and is fun!”

“Using principles from Mayan Indians and others, we have created an ecosystem where the plants act as a wetlands, naturally cleaning the water from the fish. We consider ourselves to be World Citizens so we think globally and act locally! We promote sustainable agriculture practices such as our use of a fraction of the water that other farmers use, which is critical here in Florida. In addition, we strive to be eco-friendly in every way possible so we use the sun to produce electricity with our PV solar system!”

This innovative farm demonstrates the diverse number of crops that can be grown, all with a low carbon footprint. The solar panels take advantage of the abundant Florida sunshine and the aquaponic system uses nature’s recycling to reduce waste.

You can learn more about Aquaorganics products at: <http://ao.locallygrown.net> and you can contact Michael Musoke via email at [aquaorganics@gmail.com](mailto:aquaorganics@gmail.com)

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*Top: A variety of vegetables grown.  
Middle: Herbs, lettuce in the raft tanks.  
Bottom: Ornamental fish raised in the recirculating system.*