

Experiencing Aquaponics at UVI



By Lisa Forsthovel

My name is Lisa and I live in Victoria, British Columbia, Canada. I have been working as a Registered Nurse since 1996. I am certified in Pediatric and Geriatric nursing specialties. My mother is originally from the Philippines and our family has been raising tilapia previously in pond systems and now in net pens in a lake.

Although I am a nurse I have interests in both aquaculture and horticulture. As hobbies I have bred bettas and cultivated orchids. My interests brought me to Malaysia and Thailand where I learned more about different aspects of aquaculture and horticulture. I visited the Kuala Lumpur Orchid Garden in KL, Malaysia and stayed at Rajamangala University of Technology in Trang, Thailand where they culture warm water finfish.

I wanted to learn more about rearing tilapia and bring this knowledge back to the Philippines to improve fish husbandry practices in our family business. This past year I took courses in fisheries and aquaculture at Vancouver Island University in Nanaimo, British Columbia, Canada. This was the first time I heard about aquaponics. One of the stu-

dents there had started a project in aquaponics, called barrelponics. As a project, I made a desktop aquaponics unit using Nelson and Pade Inc's book *Aquaponic Food Production*. I was successful in growing purple basil under artificial lighting in hydroton (clay beads) sitting above a thirty gallon aquarium stocked with six goldfish.

Later that fall I attended the first annual Aquaponics Conference in Guadalajara, Mexico where I met Rebecca Nelson and John Pade. I visited my first aquaponics facility, Aquaponia, on a tour during the conference. My interest in aquaponics was growing (no pun intended) and I was eager to learn more.

This summer I took the Tilapia and Aquaponics Short Course taught at the University of the Virgin Islands in St. Croix. The comprehensive course teaches the principles of commercial aquaponics and biofloc tank culture systems. Dr. Jim Rakocy suggested that I could gain hands on experience by returning to the University of the

Virgin Islands as an intern for three months and run their Commercial Aquaponics System (CAS). This idea was very appealing and I arranged to come back in mid-August. Prior to returning to St. Croix I made a trip to visit Morningstar Fisherman's facility in Dade City, Florida and a separate trip to visit Dr. Nick Savidov's aquaponic system at the Crop Diversification Center in Brooks, Alberta and MDM Farms in Rumsey, Alberta where Mark and his family rear tilapia and have an aquaponics system.

In mid-August I started my internship at UVI with help from the aquaculture team. My first week included planting over 32 varieties of seeds to transplant into the CAS. Some of these plants have been grown before, some have not. My duties include feeding the tilapia three times a day and checking water quality. I maintain the system by cleaning the orchard nets twice a week. I transplant seedlings into the system and monitor the plants while recording information like growth and pest pressures. I have learned that the fish and plants are at the mercy of the elements. There was a tropical storm the first week of September and then there are the daily occurrences such as intense mid-day heat, wind and rain.

I harvested my first crop from the CAS, which was tarragon sprouted from cuttings grown in the greenhouse. Fish, fruit and vegetables grown in the aquaponic system are sold on campus at the University Farm Store along with other crops grown by the Agricultural Experiment Station (AES). On October 18, World Food Day, I look forward to having visitors see the different varieties of fruits and vegetables currently growing in the CAS. It is very satisfying to watch the fish and plants grow over time. I am grateful for the opportunity to be here and am finding this experience most valuable. I hope to take the knowledge learned from running the CAS back to Canada. The climate is cooler in western Canada compared to St. Croix, so I will have to modify growing in a greenhouse system.

I could not have achieved the results with the CAS without the guidance and knowledge of the UVI Aquaculture team, Dr. Jim Rakocy, Charlie Shultz, Jason Danaher, Don Bailey and Frankie Carino. Thank-you guys! I would like to keep you all updated at the end of my 13 weeks experience here at the University of the Virgin Islands. Stay tuned.



Top: Week One - Seedlings in trays in the greenhouse to be later transplanted into the CAS. Bottom: Week Six - Fruits and vegetables growing in the CAS.