



KP Simply Fresh is a family-owned commercial aquaponic greenhouse enterprise in North Freedom, Wisconsin. The family that owns and runs the operation includes Donna and Norbert Meunier, their son, Christopher Meunier and Donna's brother, John Rengstorf.

An entrepreneurial family, the Meunier's became a leader in the coin operated game business while running King Pin Games, a successful company that sells new and used coin operated machines, video games, pinball machines and electronic rides. Previous business enterprises of the Meunier's include running a riverfront resort, a car sales company and a tropical fish business.

The Meunier's became interested in aquaponics while looking into sustainable farming ventures that would take advantage of the space, resources and infrastructure they had on their home property in North Freedom. Aquaponics met their goals of incorporating technology and innovation while demonstrating profit potential, all while growing premium crops that could be marketed locally.

They began construction on the 5,000 sq. ft. greenhouse facility in mid 2009, after removing a storage building to make room for the greenhouse. They sequentially stocked their fish tanks over the past winter and began growing fancy lettuce and herbs this spring.

The Meunier's purchased their aquaponic systems from Nelson and Pade, Inc., a Montello, WI company specializing in aquaponic technology, sys-

tems and training. Nelson and Pade, Inc.'s *Clear Flow*TM aquaponic system design provides maximum production of fresh fish and vegetables, while ensuring safe, nutritious food.

A fish and plant nursery were set up in the fall of 2009 in one of the existing buildings on Meunier's property, which was once an apple orchard. The nursery room is climate controlled and houses 4 - 110 gallon fish tanks, a filter system and 4—4' x 6' raft tanks for growing plants. High intensity grow lights provide the light spectrum the plants need in the nursery.

Tilapia fry are brought in at a size of .5—2 grams from companies in the US that specialize in tilapia fry production. These growers produce very high quality, fast growing fish. The young fish are kept in the nursery until they reach 50 grams (1.7 oz), which takes about 12 weeks. At this point, they are moved to the main grow out system in the greenhouse, where they are grown to 600-800 grams (21 -28 oz), which takes another 24-30 weeks.

The main culture system in the greenhouse is comprised of 6—1200 gallon fish tanks, a high tech filtration system and 2—10' x 90' raft tanks. There is also space allocated for an NFT (nutrient film technique) growing area that will cover an additional 640 sq. ft.

The water in the system circulates 24 hours a day through the fish tanks, filtration system and raft tanks. Typically, the water makes a complete pass through the system every 1-2 hours, providing clean

water for the fish and unending fresh nutrients for the plants.

The aeration system maintains the dissolved oxygen throughout the tanks at a level of 6-8 ppm, ideal for the fish, plants and beneficial microbes.

The fish in the main culture system are fed 3 times per day. The fish in the nursery are fed 6 times per day. As the fish mature, they are fed a larger pellet with a lower protein level. The young fish start on a small crumble with a high level of protein. As they grow, the amount of protein required is less and less and the size of the feed is increased.

A separate purge tank is used to prepare the fish for harvest. When the fish are of proper size, they are netted from the main culture system and moved into the purge tanks, where they spend an additional 4 days, without feed, before being harvested, put on ice and brought to a nearby fish processor for filleting, packaging and freezing.



Top: Norbert Meunier (right), sharing lettuce with customers in KP Simply Fresh's aquaponic greenhouse. Bottom: Christopher Meunier (middle) explaining aquaponics to attendees of the open house at KP Simply Fresh.

In full production, they can harvest about 500 lbs of tilapia every month.

The fancy lettuce is started from seed on a propagation table. Once the seedlings are approximately 10 days old, they are ready to be transplanted into the raft tank. The seedlings are set into the floating rafts, where the roots dangle into the nutrient-rich, highly oxygenated water. The lettuce seedlings are transplanted on one end of the raft tank and harvested at the opposite end of the raft tank. Once a raft full of



Left: Colorful signage lets passers-by and farm market attendees know that they can buy fresh, locally grown tilapia and vegetables from KP Simply Fresh.



Right: A coin-operated fish food dispenser allows greenhouse visitors to purchase and feed a measured amount of fish food.

lettuce has been harvested, the raft is cleaned and new seedlings are set into the holes. Then, all of the rafts are pushed ahead and the raft of seedlings is set in place. In full production, with high intensity plant grow lights, the Meunier's can harvest over 100,000 heads of lettuce per year.

Harvesting is done in the morning, beginning at 5am, when it is cool in the greenhouse and the lettuce is very crisp. The lettuce heads are harvested with the roots, bagged and then put into a refrigerated unit to keep them cold and fresh.

In addition to the 15 or more varieties of fancy lettuce, Donna also has sweet red bell peppers, fresh herbs, eggplant and a variety of other crops growing.

Water quality testing and record keeping are integral to the daily operation. Monitoring pH, water temperature, dissolved oxygen, ammonia and nitrite levels is done on a regular basis. Daily log sheets are filled out to record the water quality data, greenhouse environmental conditions and when and how much the fish were fed.



Monitoring and record keeping are an important part of daily life for a commercial aquaponic grower.

The produce and fish are sold at local farmer's markets, restaurants and grocery stores. New accounts were recently set up at a hospital and the Meunier's are working with other institutions as well.

KP Simply Fresh also sells fish and produce directly from the greenhouse and offers tours to individuals and groups who are interested in learning about aquaponics.

With the 5,000 sq. ft. greenhouse operating and an active marketing program evolving, plans are underway for expansion.

Above the existing greenhouse is another 12,000 sq. ft building that will be removed and replaced with the next greenhouse.

There is a lot of talk these days about aquaponics but the Meunier family is living it, successfully raising fish and vegetables, actively marketing the crops and sharing their passion with others. They deserve credit for taking the leap, believing in the technology, investing in a scientifically proven design and demonstrating a better way to grow food.

KP Simply Fresh is growing safe, fresh, nutritious food. The vegetables are free of pesticides and herbicides. It is all grown locally, ensuring the freshest product possible for area consumers. People in the region should seek out tilapia and produce with the KP Simply Fresh name on it! For information on where to purchase fresh fish or vegetables grown at KP Simply Fresh, contact Donna Meunier at 608-844-0277.

Updates on the success and expansion of KP Simply Fresh will be in upcoming issues of the Aquaponics Journal. To learn more about KP Simply Fresh's operation, visit www.kpsimplyfresh.com. To learn more about aquaponics, visit www.aquaponics.com.

About the Author: Rebecca L Nelson is the editor of the Aquaponics Journal and partner in Nelson and Pade, Inc. She can be reached by email at nelson@aquaponics.com



Top: KP Simply Fresh's controlled environment greenhouse

Bottom: A beautiful crop of lettuce in the foreground and the 6-1200 gallon fish tanks in the back