

“Non-Flowing” Hydroponic System Uses Less Energy, Works In Small Spaces

Whether you have a little space in your basement or want to operate a full-blown greenhouse operation, a Canadian entrepreneur says she can set you up with a simple-to-use vertical food growing system.

“It’s hydroponic, but non-flowing so it doesn’t need power to run pumps,” explains Claire Fortin, founder of All Systems Grow Ltd., Osoyoos, B.C.

Her mobile, expandable system starts with 2 1/2-gal. grow pails that hold 2 to 6 plants from seed to harvest in 2-in. cups. Each is filled with water and a nutrient mix. For some plants, such as lettuce and kale, it’s enough water for the life of the plant. For larger plants, such as tomatoes and peppers, more water and nutrients can be added during the fruit-forming stage.

“It uses less than 1/10th of the water used in a garden, because you don’t lose water to evaporation,” Fortin says. “The beauty of this is that you aren’t at the mercy of the elements. There are no insect problems like there are in soil systems.”

She has also experimented with multiple crops from greens to peppers and tomatoes to see what works.

“Basil does really well in the system, also strawberries and stevia,” she says. But there are some differences in varieties. For example, 2 lettuce varieties thrived in her grow unit, while 2 did not. Because of that,

Fortin suggests customers purchase a ready-to-go kit - pail, cups, nutrient mix and seed - to ensure a successful harvest.

Since taking early retirement as a finance director, she has studied and researched the best food growing and natural building systems and developed a passion for a new lifestyle that involves growing fresh, local food without pesticides, herbicides and fungicides.

“This appeals to anyone who wants to be food independent or live sustainably,” she says.

Prices start at \$10 for a single EZGrow pail to \$2,000 for an outdoor greenhouse that doesn’t need power with 160 grow pails to grow 320 plants in 64 sq. ft. or start 1,000 plants (see YouTube: All Systems Grow Vertical Grow Greenhouse Video 3).

She has also developed a commercial non-flowing hydroponic system using 4-in. pvc pipe (\$3,500 Canadian). With grow lights included it can be set up in a 2 by 10 by 7-ft. high area to grow 392 plants.

Fortin welcomes inquiries from investors and dealers interested in growing her company.

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Expandable growing system starts with 2 1/2-gal. grow pails that hold 2 to 6 plants from seed to harvest in 2-in. cups. Each is filled with water and a nutrient mix.



Simple-to-use vertical food growing system is hydroponic, but non-flowing so no power is needed to operate pumps.



Experienced Aquaponics Company Offers Everything But The Fish

Nelson and Pade (N&P) is a one-stop shop for aquaponics, offering equipment, supplies, hands-on training and how-to books and consultation. The only things needed are fish for the tanks and seeds for the floating beds. The company’s systems and training are geared for all sizes of operations from family size to commercial.

Lora Ginter and her husband Ed ran into N&P equipment and training while on a mission trip to Haiti.

“We trained with them there, and the program was very professional,” recalls Ginter. “They started simple, hit the basics and then got deeper day by day.”

Ginter liked the fact that the training didn’t paint rosy pictures, but talked about the challenges of running this type of business. The couple liked their experience well enough that when they returned to their home near Lexington, Ky., they ordered a Clear Flow aquaponics system from N&P.

“We looked online for the components, and we couldn’t do better than N&P, especially considering their expertise,” says Ginter. “It’s good to know we have almost 30 years of experience in controlled environment agriculture just a phone call away.”

With the help of friends, the Ginters did most of the work putting up a commercial scale greenhouse recommended by N&P. The aquaponics firm helped finish the job and then held a regional workshop on-site.

“We put our first fish in the tank in July, and the crops and fish are growing well,” says Ginter. “The class prepared us, and their books provided more answers. We are learning as we go. So far it’s going well.”

The Ginters tackled both aquaponics and market gardening at the same time. Under the business name Bluegrass Aquaponics, they are marketing fish and produce to customers in the Lexington area.

Alice Hill didn’t move as fast as the Ginters.

She took the class, planning to produce fish and winter salad greens for her family and friends. They would also be served to guests of Beaver Creek Ranch, the hunting lodge run by Hill and her husband Jeff. It was another 3 years before construction of a small greenhouse began and Hill ordered a Clear Flow system. It was 6 more months before she had the system set up and running.

“The class is great preparation for anyone new to the field and would be wonderful for someone with a hobby background,” says Hill. “I was able to clearly identify what I wanted from an aquaponics system based on marketing dynamics, start-up costs and time required to manage it.”

In the intervening 3 years, Hill studied a book and newsletters authored by N&P co-founder Rebecca Nelson. Nelson and John Pade have been studying, designing and building aquaponics systems for more than 20 years.

The first fish went into the system in early spring 2013. While Hill changed her mind about harvesting the fish, she kept them for the fertilizer they produced. Soon she expanded far beyond salad greens.

“This winter I have many types of lettuce, kale and chard growing there,” says Hill. “I also have a lemon tree in full bloom, 4 types of figs, a fruiting tomato, 4 types of peppers fruiting and 3 blueberry bushes coming out of dormancy.”

Hill also has grown Chinese greens, strawberries and cucumbers and used the fertile water to start transplants for outdoor gardens. Not all the plants are hooked directly to the aquaponics flow, but they all benefit from the nutrient rich water produced by the system.

Hill admits she has had problems with pests and a power outage. However, N&P has been quick to respond with advice.

“They are always there to assist and give



N&P is an experienced aquaponics company that offers equipment, supplies, hands-on training and how-to books and consultation.

great suggestions,” she says. “I think of the staff as friends I can count on. They take great pride in everything they do.”

There are a few things Hill would do differently. She advises adding a nursery tank so fish are large enough to produce needed nutrients when starting up the greenhouse. Using fish fry available to purchase delays full production, she noted. She would also have allowed for more shut-off valves to make changing the pump easier, as well as allowing for expansion of the media-filled tubs and to tie in a fodder system.

“This could all have been done easily if I had thought it through prior to the completion of the system,” she says. “Once the system was set up and ready for fish, I found it to be just as simple as was demonstrated in the class. Every morning I would go out to the

greenhouse expecting a disaster, but I only had small hurdles to jump the first year.”

N&P offers farm market and commercial systems with multiple tanks for staggered fish harvest. Farm market systems start at \$35,400 and are sized for greenhouses from 2,600 sq. ft. to 5,700 sq. ft. Commercial systems start at \$63,395 for a 6,000 sq. ft. greenhouse.

Clear Flow systems sized for homes and schools start at \$2,995 for a 300 sq. ft. greenhouse.

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