

Berlin start-up pioneers fish-farm veggie garden

18 May 2014, by Mathilde Richter



Nicolas Leschke, CEO and founder of ECF Farm Systems, checks his crops at a green house built on a shipping container by the ECF Containerfarming company at an industrial estate in Berlin on May 5, 2014

The ancient Aztecs and Chinese did it millenia ago, and now a Berlin start-up hopes it will feed 21st-century city dwellers using aquaponics, a combination of rearing fish and growing vegetables.

Set up inside the brick walls of an old brewery, the company ECF, short for Efficient City Farming, is using an age-old technique to grow tomatoes, peppers and greens in a miniature container farm, fertilised with [fish](#) excretions.

"Our vision is to give [city dwellers](#) access to agricultural goods produced in a sustainable way," said Nicolas Leschke, who founded ECF two years ago with a business partner.

Aquaponics, as the method is known, combines the techniques of hydroponics, or cultivating plants in water, with aquaculture—or the rearing of fish in tanks.

Because it allows food to be produced directly in cities, not the distant countryside, "the environmental and financial costs of conserving and transporting the goods are greatly reduced", Leschke told AFP.

"And last but not least, it guarantees access to fresh products," he added, snacking on a home-grown swiss chard, a leafy green vegetable popular in Mediterranean cuisine.

The business has set up a prototype container farm on two levels, with a fish tank at the bottom and a small greenhouse at the top where vegetables are grown.

Separate to the aquarium is a tank with a special filter which uses bacteria to transform the ammonium of the fish excretions into nitrates.



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The nitrate-enriched water is then pumped to irrigate a greenhouse where the plants grow, not in

soil but in a hydroponic bath of flowing water enriched with mineral nutrients.

It is ideal for farming in crowded population centres—an important point at times of growing urbanisation, with half of the world's population now living in cities.

Because the water is used for both the fish and the plants, the method is less water-hungry than traditional farming, while carbon dioxide in the fish waste is recycled as a plant nutrient.

Barramundi, greens to go

The roots of aquaponics have been traced back to the Aztecs, who raised [plants](#) on islands in lake shallows, and to Far Eastern cultures who farmed rice in paddy in combination with fish.

ECF, which last year won a start-up award in California for its innovative take on the ancient technique, has already sold several of its mini farms, but stressed that "our business is not farming as a lifestyle hobby".

The company's goal is to sell bigger farms, to companies, real estate developers or even farmers themselves, said the chief who added, "we have requests from all over the world".

For now, ECF has bought a plot of land just outside its offices where it plans to set up its first large-sized [aquaponics](#) farm next year, on a 1,800-square-metre (0.4-acre) area.

A dog sits in front of a shipping container with a green house built as part of the ECF Containerfarming company on top at an industrial estate in Berlin on May 5, 2014

Berlin's state investment bank has agreed to help finance the venture, which the firm hopes will spin a yearly revenue of 550,000 euros (\$760,000).

The farm will sell fruit and vegetables in a dedicated store on the premises, as well as deliver to Berliners who subscribe to a weekly basket of fresh produce.

It will also sell barramundi, its chosen breed of fish which is popular in Australia and Asia, "to restaurants, or if someone calls up and says 'I am having a big barbecue at the weekend, I need 10 of them'".

With its products grown next door, ECF is embracing a powerful social trend.

For more and more consumers, knowing something has been grown or reared locally is now more important than it being organic, a study by consulting firm ATKearney in Germany, Switzerland and Austria found last year.

Quality, freshness and supporting the local economy are the main reasons behind the enthusiasm for local and regional products, ATKearney said, calling the trend "the new organic".



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APA citation: Berlin start-up pioneers fish-farm veggie garden (2014, May 18) retrieved 29 October 2020 from <https://phys.org/news/2014-05-berlin-start-up-fish-farm-veggie-garden.html>

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