Ikea’s restaurant business in its 400 stores is 1.8 billion Euro/year. It is an important part of the consumer experience. Half of the menu is vegetarian, offered 20% cheaper than traditional options. Ikea’s stated goal is to go 90% vegetarian by year 2025.

As part of Ikea’s sustainability effort, 2 pilot container farms are operated by Urban Crop Solutions’ partner Bonbio. This next to the stores in Malmö, Sweden and Helsingborg, Sweden.
Här odlar vi sallad på vårt matavfall

Mer än en fjärdedel av världens mat avfall kommer idag från husmästare. För en mer hållbar framtid måste vår mat tillgång resista till avfall. Därfor tester vi att också sälja den halvt containeren tillsammans med Bonbio.

I containeren finns det fyra olika åkern, med 600 grödor i vardera. Vi använder inte jord, utan nästdragen. Genom denna kommunikation och dess speciella odlingsmetod hoppas vi få en sjör i vårt avfall.

Bonbios butik i Södermalm har inte ens sina speciella odlingsmetod när det kommer till matavfall. Genom dessa speciella odlingsmetod hoppas vi få en sjör i vårt avfall.

Flera olika beton i Södermalm bygger ut sig. Genom dessa betonggregen hoppas vi få en sjör i vårt avfall.

Webbtäckning: www.ikea.com/nlaroco/solutions

The sign reads in Swedish: “Here we are growing your lettuce, based on food waste.” The food waste from the restaurant is shipped to Bonbio's biogas installation. The extracted biounits are returned to the container to be mixed with the water. Effectively, “We are making food from food.” Moreover, all input resources for the process are sustainable:
- the electricity is from wind energy or biogas
- the added CO2 to speed up plant growth is byproduct from the biogas
- water transpired by the plants is collected in the climate system and reused completely. This system uses only 10% of the water of traditional greenhouse or open field farming.
After applying handwash, hairnet, lab coat and foot protection, employees enter the into the kitchen, where the lettuce is being harvested.
No soil is used in the container. The irrigation system is ‘hydroponics’: crops are placed into a coconut-fiber based substrate into a white gutter. The water, mixed with nutrients, is running along the roots of the plants. The container is completely enclosed. **NO pesticides, NO herbicides** are needed.
“Harvesting” is simply lifting up 1 gutter with fully grown lettuce...
... taking it out to the kitchen next door...
... cutting off the lettuce from the roots ...
... and dropping it into the plastic bag... **No** washing is needed, as there are **no** chemicals.
Each day, 15 kg of lettuce is picked up by the Ikea cook. He walked a distance of 100 m. Before, Ikea Malmö was buying their lettuce in Portugal 2900 km away.
The Container farm contains a total of 4 automated levels.

Using container farming technology, the crops grow on four fully automated levels using organic nutrients produced by recycling organic waste. It takes five weeks from sowing to harvest.

1. A liquid plant nutrient is produced by Bonbio and used to grow lettuce and herbs in the container.

2. Organic food waste is collected from IKEA restaurants. It is delivered to a local biogas plant.

3. The organic waste is turned into biogas and biofertilizer at the biogas plant. This biofertilizer is refined into a liquid plant nutrient.

4. Biogas is used by local buses as fuel for transportation in Helsingborg and Malmö.
Small seedlings enter the system: over 10 days, the gutters move to the back of the container, growing under the blue and red LED lights. ‘Daylight’ lasts 18 hours, ‘night time’ 6 hours. The automated software controls temperature and humidity, and delivers water and nutrients, flowing along the plant roots in the gutters. At the far end of the container, an automated lift is moving the gutter down one level; and the gutter starts moving forward.
After 20 days, the gutter with the fully grown crop competed its cycle up to the front of the container, ready to harvest. A container has 13 harvests per year. The empty gully is filled with seedling, and the cycle starts over again.
The result is a completely fresh, nutricious and delicious crop of lettuce.
“We grow food from food; where input resources are sustainable”

- BioNutrients derived from food waste from biomass
- Electricity for LED and climate control from wind farms
- Extra CO2 from biogass scrubbers

“Controlled Environment Agriculture” : completely closed environment, with no soil

- No pesticides, no herbicides
- No washing needed

“Urban Crops are local”

- reducing foodmiles from 2900 kilometre down to 100 meter

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More info: www.urbancropsolutions.com
Business Units

1. Container Farms - small scale, local
   - FarmPro: ‘Production’ 4 layers, 80sqm growing surface, 6000kg lettuce/yr
   - FarmFlex: ‘Flexible’ non-automated handling, 50sqm

2. Plant Factory
   - Large scale industrial solutions

3. Biological Consulting & Research
   - Developing proprietary growth recipes
     - Seed selection, LED light intensity, spectrum, day/night; irrigation strategy; nutrient system; climate choice (temperature, humidity, air speed, CO2 content)
   - IP: 200+ growth recipes and counting...
   - Also research in herbs, microgreens, flowers, ornamental plants, cosmetics,..
Plant Factory
Research lab