

Bustanica up close



PAX International's Publisher Aijaz Khan with Mahmood Ameen, Chief Executive Officer, Emirates Flight Catering

In July, [Bustanica](#) opened its doors to the world's largest hydroponic farm. The launch marked the first vertical farm for Emirates Crop One, the joint venture between [Emirates Flight Catering](#) (EKFC), one of the world's largest catering operations serving more than 100 airlines, and [Crop One Holdings, Inc.](#), an industry leader in technology-driven indoor vertical farming. Since opening, Bustanica now employs a team of 80 and their leafy greens products are served onboard flights and sold in 160 retail stores across the UAE.

"This is a stepping-stone," Bustanica Production Director Robert Fellows told *PAX International* onsite in November. "We're positioned where we need to be."



Inside one of the modular grow units at the Bustanica facility

The facility currently runs 27 identical grow rooms where the products are taken from seed, through germination into a fully grown product ready for sale. The grow rooms are all “mirrored” which means that the size, shape and even technology are the same in each of them. The facility is focused on carrying through each product from pre- to post-production.

“There are a lot of positives about the product,” Fellows told *PAX International* during a tour of the facilities. “We have the ability to harvest in the morning and have that product in retail stores or onboard within 24 hours.”



From left to right: Bustanica Production Manager Robert Fellows, *PAX International* Publisher Aijaz Khan, Production Manager Bakht Baidar

One of the interesting stipulations about the product, beyond the speed of delivery, is that the greens are not washed — not even by the end user (be that an airline or a consumer). “The reason is the

processes we have in place,” Fellows told *PAX International*. “We look at a plant-first principal, so the product is super clean.”

That includes all the control measures that are in place, which ensure utmost cleanness. “Everything that the plant needs, it receives at the right time,” Fellows said.

The facility also has a water treatment building where the water is pushed through a series of membranes to remove any contaminants. “The plants, through any stage of the growing process, only get purified water,” Fellows said. “Everything is controlled, to ensure the plants are getting the best.”

Touch points are also limited to two: harvest and packaging, and even then, protective equipment and sanitation remain top of mind. Bustanica is driven by powerful technology which includes machine learning and artificial intelligence. A highly specialized in-house team of agronomy experts, engineers, horticulturists and plant scientists work together to achieve a continuous production cycle to ensure the produce is super fresh and grown without pesticides, herbicides, or chemicals.



Bustanica team showcasing the healthy root mass of lettuce

When the company was forming four or five years ago, “The initial discussion was to do with the continuity of product and pressures on the supply chain,” Fellows told *PAX International*. Procured leafy greens products had continual issues at that time. This included having grit, sand or stones in the produce. Fellows further explained, “We were also looking from a food safety perspective, in terms of how produce is grown and the risks that comes along with that.”

Now, the company is focused on maintaining its local roots. Located near Al Maktoum International Airport at Dubai World Central, the 330,000 sqft facility is geared to produce more than 1,000,000 kilograms of high-quality leafy greens annually, while requiring 95 percent less water than conventional agriculture. At any point in time, the facility grows in excess of 1m cultivars, which will provide an output of 3,000 kgs per day.

The farm’s closed-loop system is designed to circulate water through the plants to maximize water usage and efficiency. When the water vaporizes, it is recovered and recycled into the system, saving an additional 250 million litres of water every year compared to traditional outdoor farming for the same output.



Plant development unit of the Bustanica facility

Bustanica (Arabic for orchard or garden) has a vastly reduced reliance on water and year-round harvests unhampered by weather conditions and pests. Consumers buying Bustanica's greens from supermarkets can eat it straight from the bag — washing is unnecessary: doing so might damage the leaves and introduce contaminants.

Catering by Bustanica for Emirates will make up 10-15 percent of the Bustanica business model moving forward. The remaining percentage will be dedicated to food service, retail opportunities, Hotels, restaurants and cafés.