



Association pour la santé environnementale du Québec
Environmental Health Association of Québec

ECO-JOURNAL

October 2021

Jennifer Ball

A view from the top Greenhouse exceeds expectations

Entrepreneur and scientist, Mohamed Hage partnered with Lauren Rathmell, who was studying biochemistry at McGill University, and soon shoots from their green revolution began to sprout verdantly.

That was in 2009. Since that time, Lufa Farms has become a major international player in sustainable gardening. They are feeding 2% of the population of Montreal, and boast the world's largest rooftop greenhouse (it measures more than 15,000m² and produces more than 11,000 kg of food per week). But by no means are the partners content to stop there.

"During COVID we doubled the delivery numbers", Yourianne Plante, Lufa Farm's Communications Director explains. "One good thing was that we had our Saint Laurent rooftop ready. We are hoping to grow to feed 10% of the population of Montreal. That is our long, long-term vision. Not only in Montreal but in other cities in the world".

The founder's original mission to grow food sustainably where people live is proving indefatigable.

Lufa Farms requires no soil. Coconut fiber bags on troughs allows crops to be irrigated in drip irrigators – and therefore no new land is deployed in cultivation. By building a rooftop garden they reduce their energy costs by 50% as they piggyback on the heat from the businesses below.

The next element in the recipe was water – a precious commodity in this century. Lufa Farms has a closed loop irrigation system. They capture water on the





rooftop in the form of snow or rain, they filter it, disinfect it and re-use it in crop irrigation. Where traditional farming has pesticides and fertilizers that run off into our rivers and lakes, the rooftop farm avoids this altogether by their viable circuit.

No herbicides or pesticides are used on Lufa Farms either. For insect control, natural predators are deployed to control damage to the produce. Data scientists monitor which crops are hot spots for insect infestation and where interventions are required. Parasitic wasps control white fly populations and lady bugs neutralize aphids.

With these advances in place Lufa Farms can concentrate on 'farm to table' produce for freshness and deliciousness rather than durability, as is done for produce coming across several borders.

"Our most popular offering is our famous cherry tomatoes", Ms. Plante enthused. "They enjoy our Lebanese cucumbers. For herbs and greens, we sell a lot of basil, cress and Swiss chard. We always adapted to our customer's taste over the years".

All orders are placed digitally and the baskets are delivered to a network of pick-up points or to the customer's home. "As of today (and probably because of COVID purchasing habits) we deliver 30% to pick up points and 70% directly to home", Ms. Plante divulged.

"We are trying to deliver all by electric cars but it is only 30% currently. It is hard to find drivers so we are working with third parties right now for our delivery. We want to be at 100% electric cars. We are working on getting our route more efficient to get to every region on the same day. All the drop off points are in the city (Montréal) or Quebec City or Gatineau".

Sir John Beddington, a British population biologist and Senior Advisor at the Oxford Martin School opined that the challenge in agronomy is to slow the erosion of soil while the population continues to grow. "23% of useable land in the world is degraded now to what we can no longer use".
<https://www.youtube.com/watch?v=pnmyJnN0wBo>



The over-arching challenge in a climate crisis will always be to grow more food on less land, using less water, fertilizer and pesticides than we have historically done. These hanging gardens of Montreal are a giant leap forward, even if the distinction of "natural wonder of the world" may prove elusive.