Day four - What alternative growing environments can help us develop viable urban agriculture businesses (in an Alberta climate)?

Today, we expand our exploration of innovation and technology to focus on some of the business activities within urban agriculture and local food. One of the challenges facing urban agriculture in many areas is the difficulty of finding access to suitable land and developing growing areas that offer higher yield potentials.

Among the many interesting approaches to using space in different ways and increasing yields in concentrated spaces, we have seen - particularly, in other cities - a growing interest in rooftop gardening as well as the use of small spaces, such as refurbished shipping containers, as alternative production locations.

Spend some time reviewing the following sites on rooftop gardening and the use of containers for growing.

Rooftop Gardening

"Gotham Greens building massive rooftop farms across New York City

http://blog.archpaper.com/wordpress/archives/58707

"In dense cities where buildings are plentiful and land is scarce, rooftop farming is growing in popularity. Such operations provide a number of community benefits from employment to access to fresh produce. And for landlords, it comes with its perks: it is revenue producing while also reducing a building's energy consumption and rain run off.

Take a look at the Vimeo video on Gotham Greens -

https://vimeo.com/62903716

Gotham Greens is the first commercial-scale rooftop hydroponic greenhouse in the world. By going vertical in the city, Gotham Greens is using less water, eliminating

pesticides, putting an end to fertilizer runoff and leading the way to a sustainable agriculture future in the sky.

Another article in Fast Company magazine also covers this story:

www.fastcoexist.com/1681738/this-super-local-brooklyn-whole-foods-will-have-a-20000-square-foot-rooftop-greenhouse

Containers

PodPonics

PodPonics started in 2010 when founder Matt Liotta--a serial entrepreneur who has launched Internet, software, and telecom startups--noticed that demand significantly outstripped supply in the local food business. "[My work] in Internet, telecom, and agriculture is all pretty similar in that the goal was to find a mature industry and come up with a disruptive technology," he says. "If you wanted to produce fresh produce at the point of consumption in a way that was economically viable, what would you have to invent to do it?"

Liotta decided to use recycled shipping containers as "grow pods," which are outfitted with organic hydroponic nutrient solutions; computer-controlled environmental systems to regulate temperature, humidity, pH levels, and CO2; and lights that emit specific spectrums at different points in the day. The system provides the exact amount of water, lights, and nutrients that a crop requires--so there is no wasted energy (though the pods are still hooked up to the power grid). In a 320 square foot area, PodPonics can produce an acre's worth of produce. The pods can be stacked on top of each other for more efficient use of space.

http://www.fastcoexist.com/1678348/localize-it-podponics-grows-high-tech-organic-produce-in-shipping-containers

Here is a short CNN video on Podponics

http://www.youtube.com/watch?v=roKh8S8yrqI

The Farmery

What if you could grow and sell food in the same place? What would that look like? That is the radical idea behind Ben Greene's innovative sustainable agriculture project, called The Farmery.

http://www.treehugger.com/green-food/farmery-willy-wonka-sustainable-agriculture.html

http://www.fastcoexist.com/3015840/pick-your-your-own-food-at-this-vertical-farm-built-from-shipping-containers

Container Concept Design for City Farmer Society in Vancouver, BC

Every year there are at least 1.4 million shipping containers sent back to Asia to be recycled. Could these containers offer a solution to urban agriculture?

http://www.cityfarmer.info/2013/10/08/container-concept-design-for-city-farmer-society-in-vancouver-bc/

THE URBAN FARM UNIT: AN OPEN SOURCE SOLUTION FOR URBAN AGRICULTURE

http://www.ecohome.net/news/latest/urban-farm-unit-open-source-solution-urban-agriculture

Discussion Question:

How could we use alternative spaces - rooftops or containers - to support our urban agriculture goals?

What are some of the challenges we would need to address?

What other alternative spaces might we explore?