



LESSON 5: HYDROPONICS IN BUSINESS



With food products being modified, and plants constantly having chemicals and pesticides applied to them, it's no wonder that people are becoming more and more concerned about exactly what is applied to and in their foods. They are so concerned in fact that they will pay premium prices for food that is known to be safe and free from pesticides and herbicides.

By using hydroponics in a controlled greenhouse environment we have exactly what we need to fill this demand. Hydroponic gardening in a green house is also called Soil-less/Controlled Environment Agriculture (S/CEA). There isn't usually any need for insecticides and herbicides because most pests and diseases have a hard time finding their way into the greenhouse, where in a normal farm the crops are exposed to the air, insects, and soil borne diseases.

The plants grow better and become stronger than soil grown crops and this makes them more resistant to diseases, combined with a clean greenhouse this eliminates the need to use traditional chemicals in a hydroponic greenhouse.

Currently in North America traditional farms using soil are most common, with hydroponics usually being smaller family owned operations. That will be changing soon, many people are just now realizing the benefits that hydroponics offers over traditional farming and the number and size of hydroponic farms is growing. The smaller facilities for hydroponics are usually about 1/8 to 1 acre and the largest ones topping out around 100 acres.

These hydroponic farms are able to grow a large number of plants in a small area by placing the plants closer together since there is no need for tractor rows. The plants can also be stacked vertically, and some choose to use products like the omega-garden to maximize space and light efficiency.

DID YOU KNOW?

One of the seven wonders of the world was an early hydroponics system? The hanging gardens of babylon (near present-day Al Hillah in Iraq, formerly babylon). They were built by Nebuchadnezzar II around 600 BCE. He is reported to have constructed the gardens to please his wife, Amytis of Media, who longed for the trees and fragrant plants of her homeland. They used a series of channels around the palace, and delivered water to the plants, which was pumped by an Archimedean screw

Hydroponics uses roughly 5% of the water that soil would use. Think about that for a moment; imagine that it took 20 liters of water to grow a single tomato in soil. Now imagine the same tomato a bit bigger, with more nutrition growing from a single liter of water. Kind of unbelievable isn't it?

Have you heard of frost coming early and killing off a whole field of crops? With most hydroponics setups the weather outside doesn't matter, because it's in a controlled environment. For example if you wanted to you could grow bright red strawberries in Antarctica and they would be as fresh and tasty as the ones you picked out of a field in the summer.

That means that in places where fresh water is very limited like arid regions and developing nations high quality produce can be grown, and no water is going to waste. There is no run-off in a hydroponic system whereas traditional farms will have a large amount of runoff that can find its' way to local bodies of water, contaminating them and killing wildlife.

No limits on the growing season means you can grow year round, and put out an extra crop or two in a year. You can even stagger starting the plants and have fresh produce continuously year round. Many growers are taking advantage of their local area as people are usually more willing to spend money if it is going to someone in the community and is freshly grown. This is preferable rather than buy something from a far off country that had to travel halfway around the world and is probably nowhere near as fresh. Smaller operations have the advantage of offering vine ripened produce closer to market than anyone else.

There is also the added benefit of being better for the earth, and more pleasing to the nose. Growing hydroponically won't exhaust the surrounding soil of all its nutrients. There are no tractors or traditional farm equipment running constantly, reducing emissions. Hydroponically grown produce typically is grown closer to its final market and doesn't need to be transported as far, further reducing carbon emissions.

As a business hydroponic farming is taking off. You may notice hydroponic and gardening supply shops starting to pop up in your area. As long as the basic principles of plant growth are understood, it isn't too hard to setup a hydroponics system.