Tropics Hydroponics Farm LLC

- What is the type of system is it (e.g. Hydroponic flow through systems, re-circulating, non-circulating systems etc.) and does the system incorporate the basic units? (growing chamber or tray, reservoir, submersible pump, delivery system, simple timer, air pump, grow lights, drip emitters or sprayers)
  *(Note size and shape of growing chamber, type of materials units are made out of i.e. metals, plastics, etc., and is filtration mechanism included in pump)

  -The Lettuce is ran on a recirculating system while the tomatoes are floating in buckets (9 x 8 x 13) that are on a timer system. All over flow is pumped back out to the fields through gravity fed pipes. Tropics Hydroponics also has 3 different nutrient tanks that run the NFT (nutrient film technique) process

- How is the system unique to its geographic location?
  - -It's the only one of its kind on St. Croix of the USVI

- How durable is the system? Inside or outside unit?
  -Mainly outdoor with certain crops under roof covering. The indoor system is very durable given the fact that the PVC pipes aren't exposed to the elements.

- How much maintenance and refurbishment is required?
  - -The rubber hoses, which aren't meant to last very long, are replaced frequently in relation to the PVC piping.
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- What is the most significant way the system minimizes ecosystem disruption?
  - -Much less water consumption than regular systems. A tenth of what traditional farms use (according to John McCollum).
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- In what way has this system maximized mass, energy and space efficiency?
  - -Utilizes less space with higher yields than average farms.
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- How does it maximize water use efficiency/availability?
  - -The recirculating system seems to be an efficient water usage model although the farm uses ~3,500 gallons a day.
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- What renewable materials and energy inputs are incorporated into the system?
  - -A wood chipper is being brought in to create mulch and natural compost. Also pesticide production may use some form recycled material.
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- Are the materials nonhazardous?

- The Sulfuric acid used to bring down PH levels of water source may present problematic growing conditions
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- What is the typical cost to operate this system?
  - -$8 – 10,000 a month
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- What medium is used for the root system? (e.g perlite, rockwool, clay pellets, peat moss, or vermiculite)
  - -Currently uses perlite but moving towards dirt. However, the lettuce are ran on the NFT system
- How do they manage pH levels in water?
  - - Sulfuric Acid is used to bring down PH levels
- Is the nutrient solution commercially available or made specific for the system?
  - -Commercially available
- What particular crops are grown in this system?
  -Lettuce and Tomato but moving towards Kales Butternut Squash

- Is produce incorporated in local food market? Organic certification? (Medium may be inorganic)
  -In with local Markets and not organic certified

- Can the system facilitate future renovations and expansion?
  - -Tropics Hydroponics is in a transitionary phase: “trying to create a sustainable, self-sufficient , and repeatable model system”.