

ANACOSTIA AQUAPONICS

November 18, 2019

Testimony on the DC Urban Agriculture Land Lease Program

I believe there are a variety of important points we must consider as we implement the DC Urban Agriculture Land Lease Program and other efforts to boost agriculture in our city.

What is our goal?

I believe that to advance urban ag in DC we must first ask ourselves what our goal is. Here is a very rough estimate of how much we are currently growing:

- USDA: the average American eats about 270 lbs of fresh fruit and vegetables per year
- DC population: about 700,000
- $270 * 700,000 =$ DC demands about 189 million lbs fresh fruit & veggies per year

The best production stats I could find for DC was a UDC 5-yr report saying it grew over 4,300 pounds on its rooftop, and 16,000 pounds for community organizations.ⁱ That's about 20,000. Given these numbers from the city's largest, most well-resourced grower, it is hard to see that all of DC agriculture combined is even producing 1 million pounds per year. *This means we are currently growing less than 0.5% of our own food.* I welcome better stats if anyone has them.

Our production goal will be many times larger than current capacity, so how do we scale up?

I believe we need to focus on controlled environment agriculture (growing in an enclosed space) and new growing technologies like hydroponics, aeroponics, aquaponics, and vertical growing.

How much per year per square foot?

We live in a confined urban space, with cold winters and hot summers. Farms that will make a real difference to the DC food supply will be those that can grow the most per square area, and that can grow through as much of the year as possible. This points to controlled-environment agriculture. Here are some stats:

- The average yield of conventionally grown tomatoes in 2016 was 1.85 pounds per square foot annually, but in greenhouses with hydroponics that number was 10.59, over 5 times as much.ⁱⁱ
- Aerofarms in New Jersey grows 1.7 million lbs of leafy greens per year with indoor aeroponics.ⁱⁱⁱ
- Plenty has indoor growing warehouses with 20-foot grow towers designed to grow 4.5 million pounds of leafy greens per year.^{iv}

These are the type of numbers that begin to make a real difference in growing our own food.

Aquaculture and aquaponics

The U.S. imports about 90% of our seafood. And seafood is the most resource-efficient source of animal protein. As the world population grows, resources become scarcer, and the climate changes, we will need to grow more fish. There is a large opportunity to develop a local aquaculture industry. This would be a completely new industry bringing jobs and keeping money here in DC.

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Conclusion

In our dense urban setting, we have limited space. Any space devoted to agriculture must be viewed as an opportunity cost. Farms should be judged by how much they can grow per square foot per year.

And, with aquaculture and aquaponics, we can move beyond simply fruits and vegetables and supply our own local protein.

Thank you,

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ⁱ <http://docs-do-not-link.udc.edu/causes/CAUSES%205-Year%20Report%20of%20Accomplishments.pdf>

ⁱⁱ <https://artemisag.com/wp-content/uploads/2019/06/stateofindoorfarming-report-2017.pdf>

ⁱⁱⁱ <https://aerofarms.com/>

^{iv} <https://www.vox.com/energy-and-environment/2017/11/8/16611710/vertical-farms>