



Mini-Cucumbers Where They Have No Business To Be

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?We have a mini-cucumber!?! It was against all odds, but there, nestled amidst the plant?s large leaves, were the beginnings of a cucumber. The news quickly spread throughout Public School 333, and another cucumber was soon to join it. Before long, our peas plants began to fruit?and lo, peas!

The fruiting of the plants at Public School 333 in Manhattan was entirely unexpected. The recent construction of the school?s hydroponic (soil-less) rooftop greenhouse laboratory brought the promise of growth, of course, but thus far the facility grew lettuces primarily. The hydroponic growing systems were yielding a rich crop of arugula, spinach, romaine, and other varieties. Peas and cucumbers were planted with the expectation that they would grow impressively high (as opposed to the dinky height of our lettuce), but we were resigned to the fact that the lack of sunlight would not allow them to fruit.

In many hydroponic growing labs, additional grow-lights are added in order to achieve maximum yields, but in our facility, it was decided that it wouldn?t be the most ?green? option as this would utilize a fair amount of electricity. The sun was there, right? Wrong. Yes, the sun was there, but its direct light was hidden behind a massive building near the school, and in the winter the sun?s elliptical through the sky is low, such that there isn?t very much of it.



And so, the school and [New York Sun Works](#) [1], the non-profit who built and currently operates the facility, resigned themselves to a fruitless winter, and perhaps even a fruitless spring?summer?.and fall! But wouldn't you know it?peas. Peas and cucumbers! Of course, the plants had needed to be artificially fertilized (we don't exactly stock honeybees!), but expectations were low to null. So what is the answer? We don't really have one. I guess our answer is to take excellent care of your crop; cycling nutrients, keeping the water flow consistent, and plants will find a way to survive and prosper?even in less-than-ideal growing conditions.

Is the success due to hydroponics? Perhaps. The technique utilizes an inert medium to hold the plant's roots, and then a nutrient solution is added to the plants in a continuous flow. This results in direct nutrient uptake, and as a result, the plants are richer in both taste and nourishment. I welcome you to try a taste of the lettuce at PS 333?it's not often you hear someone say, "Wow, you can really TASTE this lettuce!" But you can hear it at our greenhouse!

Hydroponics is also an excellent way to grow your own organic food?there are no pesticides used, only Integrated Pest Management techniques are used. For example, at PS 333 we stock ladybugs as a solution for aphid attacks. And aquaponics methods can also be used, where plants and fish live in symbiosis. Excretion from the tilapia in an aquaponics tank in PS 333's greenhouse is taken up by the plants floating on top of the water in the form of nitrogen.

At PS 333, the greenhouse is used to bring science education to children through these innovative growing methods. The children can learn about sustainability and nutrition at the same time. They also learn to grow their own food and enjoy the healthful fruits of their labor at the same time?the food goes to their cafeteria! New York Sun Works, through their "100 Greenhouses" Initiative, is working to make similar greenhouses available to urban school children and communities throughout New York. The next project has already commenced construction at Public School 89 in Brooklyn and others are set to begin in the next few months. Hopefully, The Greenhouse Project will be coming to a school near you shortly, and you can rejoice in the discovery of your own mini-cucumbers along with those at PS 333.

For more information on New York Sun Work's The Greenhouse Project, please visit <http://nysunworks.org> [1] or email info@nysunworks.org [2].

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