



In the first assessment on the initial visit to Antilles Food and Vegetable in Bayamón Puerto Rico, we assessed what particular parameters and goals were the most desirable for the farmer. These parameters included not growing the produce beyond a certain size that became undesirable for grocery stores and restaurants because of storage, shipping, shelf life, display sizes, and price point of product. The other parameter was to see how quickly the farmer could get the product to the desired size and quality. Lettuces also have a natural function called bolting. This is when the plant starts to think it needs to reproduce and will send off different chemicals to the plant which will change the composition of the leaves and put out flowers and other mechanisms to reproduce. At that point when the bolting occurs it also becomes undesirable for farmers, grocery stores, restaurants and tables, because the taste becomes more bitter and it's a rougher leaf. Upon doing a side-by-side comparison in adjacent water aquaponic beds with the exact same SOP for nutrients and maintenance we applied to 2 Agrosonics, 4 feet apart, treating a total of five tablets with 64 holes in each tablet. After documenting a weekly visit we clearly observed that the plants treated with AgroSonic needed to be harvested within four weeks and we're double the size of biomass than the plants that were not treated with our sonics. Within four weeks the lettuce already started to bolt meaning it needed to be harvested and was already at the desirable size and quality good enough for restaurants, supermarkets and tables alike. After six weeks the lettuce that were non-treated still needed more time to grow to get to the desirable size and quality. This indicates that we are able to increase the amount of harvests per year while attaining the desirable size and quality needed to penetrate the market. The leaves were more green and lushes with very nice flavors and taste, more so than the non-treated ones. The farmer uses duckweed to cover the top surface of the aquaponic beds in order to mitigate mosquito larva and mosquitoes in the farm. As a byproduct/ side effect of Agrosonics being used to treat the plants above the water, the duckweed also was rapidly producing covering a much more thicker layer of the water which the farmer did have to scoop out daily but for him that was great because he was able to use that in other parts of his farm.



