

# How does The Seneca Farm work?

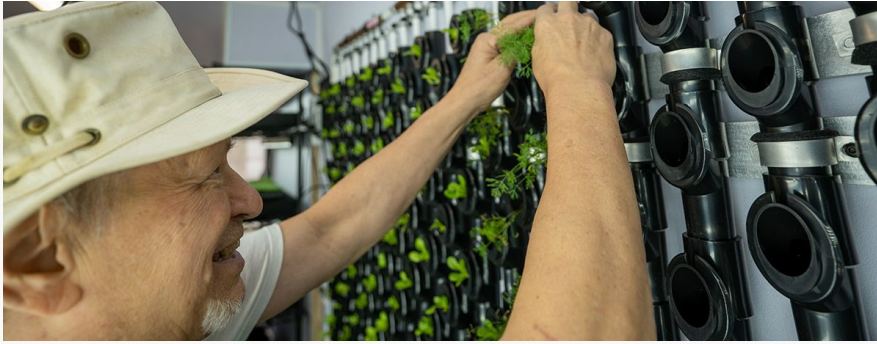
Version 5

Published 4/3/2024 by [Nadezda Tsygankova](#) Last updated 1/22/2025 9:03 PM by [Paula Echeveste Petrone](#)



The Seneca Farm uses hydroponic growing technology that recirculates water regularly from main reservoirs on each level throughout the system while delivering required nutrients directly to the root. It does not rely on pesticides or herbicides, and plants are fertilized using mineral (synthetic) fertilizers. Pests and pathogens are essentially negated in these indoor systems, and any intruders from outside can be managed through harvesting or using biological controls. High intensity LED lights help maximize the photosynthesis rate and crop yield.





The Seneca Farm utilizes a microgreens and seedling rack system for germination of seeds, growing microgreens and other brassicas and herbs. It has a recirculating system with a 110 gallon reservoir placed underneath the lowest growing level that is filled manually every five to seven days since water is recirculated. Water is pumped to the highest growing level and cascades down back into the reservoir with the use of bell siphons to ensure each growing level receives enough water before water is returned to the lower levels. The plants grow for up to four weeks before being transplanted to the two vertical growing walls that can hold a total of 522 vertical plant sites.



LED lighting racks are positioned in front of each wall providing direct lighting. The white colour of the light ensures high reflectivity, reduces light extinction and maximizes photosynthesis rate and yields.

### Sustainability Breakdown

