

Top 15

Things You Should
Know About Vertical
Hydroponic Farming

#govertical



VERTICAL
HARVEST

1.

Q: What is hydroponics?

A: Hydroponics is the method of growing without soil, using nutrient-filled water.

2.

Q: Why are your farms vertical?

A: We went vertical for our farms due to space efficiency. We wanted to grow the most food and provide the most employment possible in land-deficient urban areas. (And, it's also pretty cool).

3.

Q: What makes the Vertical Harvest model different?

A: First off, our farms are vertical hydroponic greenhouses. Our Jackson Hole, Wyoming farm was the first of its kind in the northern hemisphere to stack three different microclimates on top of each other. Second, we are more sustainable than traditional agriculture. Our hydroponic greenhouse system is space-efficient, reducing land, water, and energy usage. Our farms also eliminate agricultural runoff and pesticides.

4.

Q: What is the difference in nutritional value when comparing hydroponics vs. soil-grown produce?

A: Hydroponically grown vegetables can be just as nutritious as those grown in soil. The bottom line is that it depends on when it was harvested. Research shows that once you harvest something, whether from the soil, a hydroponic facility, or a greenhouse, it starts to degrade in nutritional value. The key is to try and find a farm that is close to your fork. Our produce is of very high quality because most is sold "LIVE" meaning with the roots, medium and shoots intact. This means that you, or the chef that is about to serve you, can then harvest it at the peak of nutritional value.

5.

Q: Is your product Organic?

A: We are not organic. This is a complex question to answer because, technically, the National Board of Organic Standards' mission up until 2016 focused on conserving soil. We think the question most folks want answered is if we use pesticides, herbicides, and fungicides? And the answer is yes. BUT — most are rated higher than the national organic standard. It is important to understand that even something as simple as sodium bicarbonate or baking soda is technically called a pesticide.

6.

Q: Where do your seeds come from?

A: Most of our seeds come from Johnny seeds. They have a steadfast “safe seed pledge” and do not buy, sell, or trade genetically-engineered seeds or plants. They also are an 100% employee-owned company.

7.

Q: What's up with the hydroponic grow lights and are they kept on all night?

A: These lights help supplement the sunlight when the sun is not around. It is important that plants "sleep" or be without any light for a number of hours, so they go to bed just like humans. This is when the plant absorbs carbon dioxide and then stores it to use during the light hours when photosynthesis occurs.

8.

Q: Do the lights use lots of energy?

A: Well, since we are a greenhouse as well as a hydroponic farm we use 50% less energy than a typical hydroponic operation.

9.

Q: Do all the plants grow together or are they separated?

A: In our Jackson Hole, Wyoming farm, for example, we have 3 microclimates on our 3 greenhouse floors. Our living wall goes up through all three floors of the greenhouse and the other 6 lettuce carousels go up two floors. Our microgreens are on the second floor. On the top floor, where it is warmer, we grow our tomatoes.

10.

Q: How do you control pests?

A: Pests include insects, but also things like algae, molds, and mildews. We use a method called Integrated Pest Management or IPM. That means we use a variety of different methods to handle pests. Primarily, we use sanitation to prevent the problem before it starts. Next, we use beneficials, which involves using good bugs to eat the bad bugs. Then we remove any leftover pests manually. Finally, as a last resort, we use pesticides, herbicides, or fungicides that meet or exceed the organic standard, such as sodium bicarbonate—also known as baking soda—and hydrogen peroxide. Again, sanitation is the most important component in pest management here—we spend a lot of time making sure the building is as clean as possible.

11.

Q: How much water do you use?

A: With Hydroponics, the nutrient-dense water recirculates. So, vertical farming uses 75-95% less water than traditional farming.

12.

Q: What nutrients are added to the water?

A: We use a solution of Phosphate, Potassium and Nitrogen.

13.

Q: How long does it take for the lettuce to grow?

A: It takes 3 days for the seeds to germinate, 3 weeks for the roots to establish and 4 to 6 weeks for the lettuce to become fully grown. The amount of time the lettuce takes to mature changes in the winter and summer based on how much sunlight the plant gets.

14.

Q: How long do the microgreens take to grow?

A: It takes the microgreens 1 to 2 weeks to grow depending on the variety.

15.

Q: How should I use microgreens in my cooking?

A: Microgreens have a variety of flavors so they can really be used with anything. They are great on sandwiches, soups, stir fries, and pastas or as an addition to any salad. Since they are about 40% more nutritious than their adult counterparts they make a great addition to any meal.