

Hydroponics

By: Amber, Ramiel, Edgar, Ofir, and Gilly

What is Hydroponics?

-Amber

This is a frequently asked question to many who don't know this topic. Hydroponics is the process of growing plants in sand, gravel, or liquid, with added nutrients but without soil.



Corn grown
using hydroponics.

What Amber did in the Greenhouse? -Amber

In the greenhouse I was able to test the Ph level with special equipment for the plants. To do this I had to put a piece of the equipment in the water and wait till the numbers on the Ph checker stopped we read the numbers and from there figured if we had to put Ph down. I also was able to put Ph down which is a supplement for plants so the Ph level would go down. For this process I got the Ph down which looks like some sort of rock salt then I added water to it in a small cup and mixed. After this I went to the bin where the plants got their water from and poured it in while mixing it and a few minutes later the Ph went down. This is important because too much Ph or too little can kill the plants.



What We Did On The First Day... -Gilly

Hydroponics is used on conservative farms all around the world. Conservative farms conserve energy and are grown without dangerous sprays to keep bugs away. Hydroponics is used so food won't be affected by the soil and the parasites. On the first day we went to the greenhouse we learned about readings, such as EC and PH. The EC reading was 2.2 and the PH reading was 7.24. The Ph reading was too high for all the plants, so took away some nutrients to make it better for the plants. The PH affects how many nutrients the plant gets. Too many nutrients and the plant could die. Then as we were working we heard the water flowing and saw the whiteflies. Whiteflies are bugs who eat the leaves of the healthy plant and that is what causes them to be them sick.

After the whiteflies ate the plant.



What Did Ofir Do In The Greenhouse? -Ofir

I took turns switching off with all other kids in the group spraying off white flies, making sure the Ph levels were perfect, meaning having to make sure there was enough nutrients for the plants to grow or not too much nutrients, and we all took turns measuring the plants to see the growth of each plant. Some of the time I also got to use the camera so then after we can see the progress of the plants.

What Edgar did in the greenhouse -Edgar

What I did in the greenhouse was that I usually water the plants and everybody measured the plants in the greenhouse. We usually water the plants to make the whitefly, which is a bug that will eat the plants, go away. We usually water them out to make sure that they don't kill the plants, which means that there will be no plants that will produce any goods at all.



This is a picture of the hot peppers that we grew

What did Gilly do in the Greenhouse? -Gilly

I took measurements and measured the PH and EC readings. After I did that I either added crystals or washed the EC reader. I helped measure the plants by using rulers. Once I took the hose and washed down the plants trying to scare the the whiteflies away from the plants. I also took pictures with the camera of improvements the plants made.



Measuring the peppers

Who Would Use Hydroponics? -Ofir

I think people who are interested in plants and the science of how a plant grows or how it happens should be interested in hydroponics. I think this because of how interesting it is to see these plants grow in ways you didn't even know possible. Since hydroponics is used without soil this makes it more complex and you can have more fun.

What does hydroponics look like in the Greenhouse?

-Ramiel

Hydroponics in the WMS greenhouse looks like a mini farm. we grow tomatoes, sweet corn, string beans, sweet peppers, and hot peppers. we have sections for different plants such as sweet corn with sweet corn, beans with beans, peppers with peppers. we used bins and to hold the plants and tubes to bring water to the plants.

Sweet peppers



Corn



Tomato Plant



What did Ramiel do in the greenhouse -Ramiel

- I took measurements and measured the ec and ph
- I lowered the ph level using ph down
- I took the measurements of the plants



EC and
ph
readings

Taking
ph
levels



Data Table -Amber

Plant Growth Chart

Number of Days	Corn #1	Corn #2	Corn #3	Corn #4	Sweet Peppers	Hot Pepper	Tomatoes
Day 1	113cm	132cm	76cm	49cm	26cm and 17cm	26cm	42cm
Day 2	126cm	145cm	92cm	65cm	26cm and 25cm	48cm	47cm
Day 3	155cm	149cm	110cm	76cm	48cm and 35.5cm	54cm	53cm
Day 4	160cm	145cm	120cm	88cm	48cm and 51cm	71cm	79cm

Important Measurements

Measurements are important to the plant's growth because it shows the improvement the plant makes. The measurements show the health of the plant and how the nutrients are helping the plant grow.

Summary -Edgar

Our thoughts on hydroponics is that it is was a fun/challenging experience in the greenhouse. We thought it was very fun taking care of the plants and making sure that the plants were being healthy every week. We think that other people should get into hydroponics so instead of soil they can use other materials to grow their plants. For example we used clay pebbles to grow our plants. This is a good alternative because farms use more energy and time. When we use Hydroponics we save time, money, and energy.