Experiment 2d Final Write-Up

Scientific name: *Ocimum basilicum*
Common name: Basil

Experiment Outline: Obtain a healthy basil plant that has been well kept and whose leaves are not wilting. Using scissors or a pruning knife gently cut the stem just below the node. Take 5 cuttings for both the control and the treatment. Cutting at an angle can also increase surface area on the stem. Remove the bottom most leaves from the stem. Place in two separate glasses of water, making sure to keep the leaves from dipping into the water. Change out glasses of water every other day. Make sure to not use especially cold or warm water to fill the glass. Keep out of direct sunlight but keep in a warmer room. Take rooting data on day 7 and day 14.

Photos:
Day 0 -
Left: 4 Node Right: 3 Node

Day 7 -

Top: 4 Node Bottom: 3 Node

Day 14 -
Left: 4 Node Right: 3 Node

Photo description: After one week, both the control and treatment appear quite healthy. However, the difference in the 3 node cuttings from week 1 to week 2 is quite clear. The 3 node cuttings at that point had no rooting and had no chance to root as all cuttings had wilted and browned. The 4 Node cuttings remained fairly healthy throughout the experiment.

Data:

	Week 1	Week 1	Week 2	Week 2
	% rooted	Average root rating	% rooted	Average root rating
4-Node stem cutting	0	0	0	0
3-Node stem cutting	0	0	0	0

Description of data:

Over the course of the experiment, I noticed the 4 node cuttings would need water replaced faster than the control. I had to fill and replace water more often and check for water levels on a more regular basis. I also noticed that the 4 node cuttings leaves were softer and more firm to the touch. They also retained their “waxy” feel to them much better than the 3 node cuttings.

Discussion:

This experiment took rooting data for two weeks on basil cuttings. I hypothesized that the 4 node basil cuttings would have a higher average root rating. This hypothesis could not be supported as there was no rooting on either the treatment or control cuttings. One issue that could have led to the lack of rooting was the room they were placed in, which may not have been warm enough. Basil is quite sensitive to temperature and having too low of a temperature would weaken the plant (Growing Basil in Your Backyard). While there was no rooting, the health of the basil cuttings did improve from the first experiment. The more nodes used, the healthier the cuttings were over the course of the experiment. The more nodes, the longer the stem and this may have been the reason the leaves remained healthier in the 4 node cuttings. The stem was able to better transport water and nutrients to the leaves, keeping them from wilting. This experiment in the end was not able to show the effects more nodes had on rooting data.

Sources:

- *Growing basil in your backyard*. University of Illinois Extension. (2020, May 13).

https://extension.illinois.edu/blogs/flowers-fruits-and-frass/2020-05-13-growing-basil-your

-backyard.