

# How is the Height of Radishes Affected by Putting Coffee Grounds in the Soil?

By Helena

June 1 - 4

The purpose of my experiment is to determine how putting coffee grounds on the soil of radishes affected their height. I planted 12 different seeds, 6 in regular soil, and 6 in soil with coffee grounds. Once they had grown to a good height, I measured them and wrote down their heights. The plants without coffee grounds grew better than the ones with coffee grounds, so I can conclude that this does not work.

Taking care of a plant isn't easy. It requires the right type of soil, the right amount of sunlight, and constant watering. On top of that, it is important to keep away any bugs or insects that could damage the plant. There is a way to make some of these jobs easier. Many gardeners say that coffee grounds can help the growth of some plants, add useful nutrients to soil, and help the soil keep water. If this works, it could help produce more and better food, and reduce waste. This is what my experiment is testing. How does putting coffee grounds on the soil affect the height of plants?

### Research

Radish seeds germinate in 3-4 days. They are usually planted in autumn, and grow best in full sunlight. The entire plant is edible, and they are usually eaten raw.

Coffee grounds add nitrogen and other important nutrients to your soil, though it doesn't add nitrogen immediately. They also help the soil retain water and nutrients. Coffee grounds also help improve water flow within soil. They can help improve soil structure, and act as a barrier to air movement and moisture. They can help to keep away slugs, snails, and other bugs. They are thought to help plants photosynthesize. Coffee grounds are especially good for acid loving plants, and can act as a fertilizer. They help to attract worms, and can absorb heavy metals that could be harmful to the plant. Coffee grounds are said to help microorganisms thrive. They can keep cats from urinating on your plants, and are thought to keep away weeds. Unwashed coffee grounds lower the soil's pH.

### Experiment:

My independent variable is whether the soil has coffee grounds mixed in. My dependent variable is the height of the plants. I think that the plants in the soil with coffee grounds will grow better than the plants in regular soil. My constants are the type of seeds and the amount of water. My control group is the plants in regular soil.

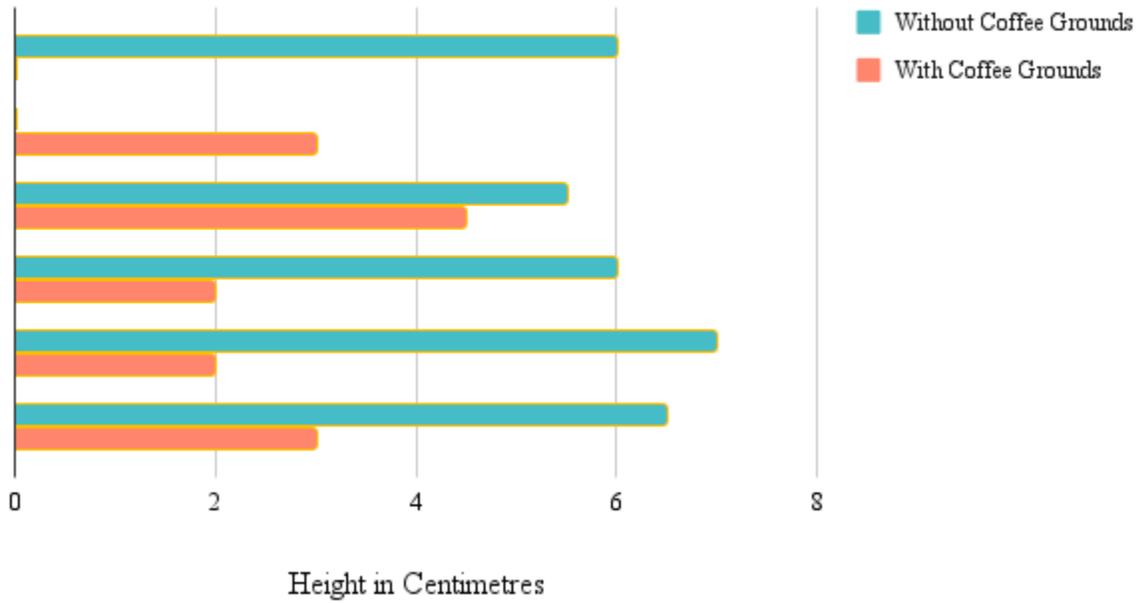
### Procedure:

My experiment started on April 9th. First, I took a quart sized container and filled it with soil from my backyard. I separated it in half, thoroughly mixing about four tablespoons of old coffee grounds with half of the soil and leaving the other half plain. After that, I found an old egg carton to plant my seeds in. I filled six of the 12 cups on my egg carton with soil and coffee grounds, and the rest of the cups with regular soil. I dug a small hole in each cup of soil with a toothpick, and placed a radish seed inside. I then covered the seeds with soil and placed them on a windowsill. I watered them every day. On May 3rd, I measured the height of the plants with and without coffee grounds, and wrote down the height of the plants.

## Results & Analysis

I noticed that the radishes without coffee grounds grew better than the ones with coffee grounds.

### Height of the Plants



My data was affected by the amount of sunlight the plants received. Two of my plants also didn't grow.

## Conclusion

My hypothesis was incorrect, because the radishes with coffee grounds were shorter than the ones in regular soil. If I did this experiment again, I would have put the plants outside to grow, and I would document the amount of water I used. If I continued this experiment, I would test coffee grounds on other types of plants. This experiment could determine how people grow crops.

### Bibliography:

Gardeningknowhow. Heather Rhoads. 2020. 11 November 2020.

<<https://www.gardeningknowhow.com/composting/ingredients/coffee-grounds-gardening.htm>>

Healthline. Kayla McDonnell. 2018. 12 April 2018.

<<https://www.healthline.com/nutrition/uses-for-coffee-grounds>>

Tree hugger. David M. Kuchta. 2021. 18 March 2021.

<<https://www.treehugger.com/are-coffee-grounds-good-for-plants-5116313>>

Wikipedia. 2021. 3 May 2021. <<https://en.wikipedia.org/wiki/radish>>

### Acknowledgments:

I would like to thank my parents for providing me with necessary supplies, such as seeds and some coffee grounds. I would also like to thank my friends, for helping reassure me that I would finish in time when I was panicking.