

# The Infiltration of Different types of Water through Bertie County Soils

## Bertie Student



### Introduction/Rationale

The purpose of this project is to find out the ion levels before and after we use different water types and soil types. I chose this project because I wanted to know why rain water is better than tap water when I was growing plants. My project can help farmers know more about how acidic their soils are.

### Research Problem

How does the ion level in different water types change when they go through different soil types?

### Hypothesis

I thought that the ion levels would go up after the different waters went through the soils.



### Materials and Methods

This experiment used equipment including the following:

1. Conductivity Meter
2. Graduated Cylinder
3. 4-beam balance

We used plastic bottles, screening, pantyhose for filtering, a graduated cylinder, and a 4-beam balance. We collected three soil types from Lewiston Peanut Agricultural Peanut Research land including Norfolk type, Goldsboro type and Lynchburg type. We also used tap water, bottled water, and rain water.

We used plastic bottles, screening and pantyhose for filtering. To measure our soil amount we used the 4-beam balance. We measured the ion levels in the water with a conductivity meter before and after we ran the water through the soil. We ran 3 experiments for each soil and water type being used. In total, we ran 9 experiments.



### Results

Table of all of the separate tests on measuring the ion level of water passing through different soil types – before and after.

Conductivity ( $\mu\text{S}/\text{cm}$ ) of Different Water before and after passing through Soil types									
Soil type	Norfolk	Goldsboro	Lynchburg	Norfolk	Goldsboro	Lynchburg	Norfolk	Goldsboro	Lynchburg
	rain	rain	rain	tap	tap	tap	bottled	bottled	bottled
Volume passed									
initial	17	17	17	1090	1090	1090	121	121	121
100 ml	350	520	210	1110	1020	1020	401	429	348
200 ml	387	375	265	1000	877	894	272	401	350

### Discussion of Results

My results for my project were surprising for me. When I ran my test, the ion levels were different from the beginning of all of the ion levels. When the tap water went through the soil types, the ion levels decreased. When the bottled water went through the soil types, the ion levels increased. When the rain water went through the soil types, the ion levels increased. If I could change what I did I would just use one water type instead of 3 types.

### Conclusion

My hypothesis was both correct and incorrect. When I looked at my data it went both ways.

### References and Acknowledgements

#### References

- <http://blog.teleflora.com/whats-the-best-water-for-houseplants-tap-bottle-rain/>

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