

Testing Alternative Water Sources on Tomato Production

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INTRODUCTION

As saltwater intrusion into Florida wells becomes more common, alternative water sources must be explored as the price of city water increases. I want to find out how the alternative water sources will affect crop production.

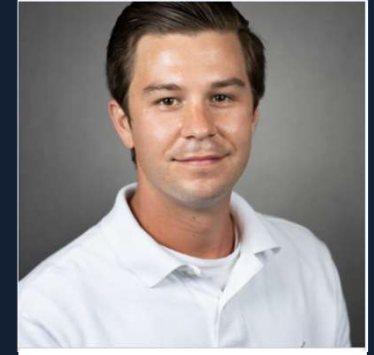
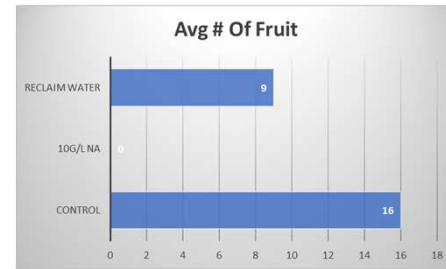
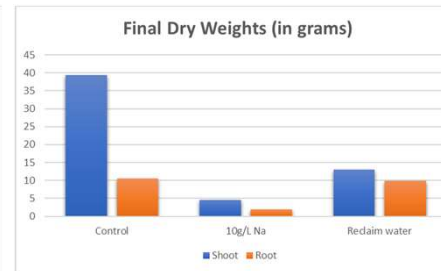
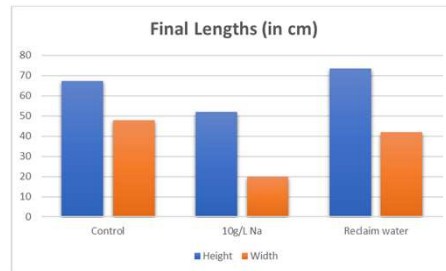
Hypothesis

Alternative water sources than city water can be used to continue crop production.



Background

- Salt affected irrigation sources can be detrimental to plant production(1,3).
- Tomato plants were planted in 2 gallon pots and separated into 4 groups (control, 10g/L Na, 35g/L Na(1), and reclaim water).
- Each group was irrigated 3 times a week.
- Data was taken to determine plant height and width, root/shoot dry weight, # of fruit, and fruit weight.
- Experiment was conducted in a controlled greenhouse.



CONCLUSIONS

After concluding the experiment, I found that alternative water sources such as reclaim water can be used for crop production as a replacement for city water. Salt affected wells are going to have a detrimental affect on plants(2) and crop production.

Resources

1. daily, science. 2020. Sea water. ScienceDaily. (<https://www.sciencedaily.com/terms/seawater.htm>).
2. Shrivastava, P., and R. Kumar. 2015. Soil salinity: A serious environmental issue and plant growth promoting bacteria as one of the tools for its alleviation. Saudi journal of biological sciences. (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4336437/>).
3. Tnay, G. 2019. Too Much Salt: The Growing Threat that Salinity Poses to Global Food Production. Future Directions International. (<https://www.futuredirections.org.au/publication/too-much-salt-the-growing-threat-that-salinity-poses-to-global-food-production/>).