MiscO^{3}nceptions of AQUEOUS OZONE

As we know it, food production is on a decline. We will need new ways to get essential crops. That's where aqueous ozone can help! Though there are many misconceptions and beliefs surrounding aqueous ozone and how it negatively affects crops, this research paper will test if these beliefs are correct. This study hypothesizes that aqueous ozone can indeed positively affect the growth and productivity of tomato plants.

What is aqueous ozone and how is it produced?
Aqueous ozone can be created when an electrical current is passed through pure oxygen. Then when the O2 is shocked it will separate some of the oxygen into individual atoms. Then these separated atoms will attach to the remaining unseparated O2 atoms. Then when the single atom attaches to the O2 it creates ozone and when that ozone is combined with water it creates aqueous ozone.

How can this experiment be useful to clear up misconceptions about aqueous ozone and how it can affect crop yields? Food manufacturers use aqueous ozone to clean pathogens out of their water for crops. Then they remove the ozone because they believe ozone is harmful to people and plants. This ozone also costs money to use. So, this experiment is here to test if the beliefs of the food manufacturers are true. This experiment could be useful as food yields are on a decline. A global data set predicted that the decreases of some plants were “7.1 percent for maize, 5.6 percent for rice, 10.6 percent for soybean and 2.9 percent for wheat.

What have previous studies shown about how aqueous ozone affects plants? A study by Thomas Graham and a study team did an experiment about the response of hydroponic tomatoes and aqueous. In the experiment the team found that there were a lot of positive results. The tomato leaves grew to larger sizes as well as the tomatoes. This drove this experiment into action because this experiment will test the same procedure in different conditions.

This experiment can be very useful to the real world because it can help with many things! Such as crop yields and productivity of plants. This experiment is to prove how good aqueous ozone can be and also the many misconceptions. This experiment is also to replicate all the same experiments but with different living conditions and variables.

MiscO^{3}nceptions of AQUEOUS OZONE

Bibliography

"Dictionary by Merriam-Webster: America's Most-Trusted Online Dictionary." *Merriam-Webster*, Merriam-Webster, www.merriam-webster.com/.

"Food Production." *Climate Communication*, www.climatecommunication.org/affects/food-production/.

"Global Crop Yields Projected to Drop as Temperatures Rise, New Study Finds." *Alliance for Science*, allianceforscience.cornell.edu/blog/2020/11/global-crop-yields-projected-to-drop-as-temperatures-rise-new-study-finds/.

Montag, Author(s): Matt. "Aqueous Ozone: From Cleaning to Sustainability." *Food Safety RSS*, Food Safety, 13 Feb. 2017, www.food-safety.com/articles/5197-aqueous-ozone-from-cleaning-to-sustainability.

"Ozone Air Purifier." *Oransi*, oransi.com/blogs/blog/ozone-air-purifier.

Ozone Solutions, ozonesolutions.com/.

"Six Important Questions to Ask about Aqueous Ozone Cleaning." *CleanLink*, www.cleanlink.com/news/article/Six-Important-Questions-To-Ask-About-Aqueous-Ozone-Cleaning--19231.

Previous studies of hydroponic tomatoes. https://www.sciencedirect.com/science/article/abs/pii/S030442381100207X