CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY

Name(s)
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Project Number
36460

Project Title
Make It Rain: What Material Works Best in Cloud Seeding?

Abstract

Objectives/Goals
The standard protocol that scientists are using to create more rain for drought affected areas is through cloud seeding. Cloud seeding has become extremely popular lately in its attempt to bring more rain to California. Scientists use a hazardous chemical called silver iodide to seed clouds, which is entering our atmosphere and making the air we breathe more harmful. My goal is to find an alternative and all-natural way to seed clouds.

Methods/Materials
I made five modern day cloud chambers using plastic, cookie tin lids, hygrometers, turkey basters, syringes, pots, paper clips, string, silver iodide, flower pollen, turmeric, and ground-up pine tree bark. I did three separate trials and tested the effects of different aerosols on the amount of rain a cloud would produce. The results were taken from different hygrometer readings during each trial, as well as the water droplets collected in the tins and measured after the trial was finished.

Results
My hygrometer readings and water droplets collected showed that turmeric was the most effective aerosol in seeding clouds. Silver iodide, which is what scientists are currently using, came in behind turmeric and flower pollen. This shows that either turmeric or flower pollen could be used to seed clouds in a natural way.

Conclusions/Discussion
My results prove that there is a more natural and effective way to successfully seed clouds. Turmeric as well as flower pollen increased the moisture content and water the best out of all of the aerosols. If turmeric is used to start seeding clouds, it would prevent the risk of silver iodide being in our atmosphere. Silver iodide increases risk of anemia and poor eyesight as well as trouble breathing and discoloration of skin. With turmeric, there's now a more effective, efficient, and natural way to seed clouds.

Summary Statement
After assembling cloud chambers, I measured natural substances versus the standard silver iodide in calculating what material produces the most rainfall.

Help Received
I conducted my experiment, built the modern day cloud chamber, and analyzed the results by myself. I had help with the drill when building the chamber, and was instructed by my teacher and parents with the safety of the hazardous chemical portion.