Influence of solution of H_2SO_4 with water on the growth of wheat (triticum)

Kaja Niewiadomska Jakub Sikora Jakub Sztefko Krzysztof Szczudrawa Artur Szczurowski

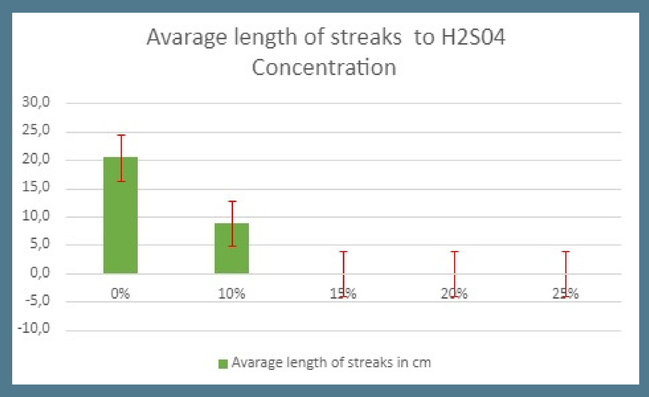
Iceland Liechtenstein Norway grants

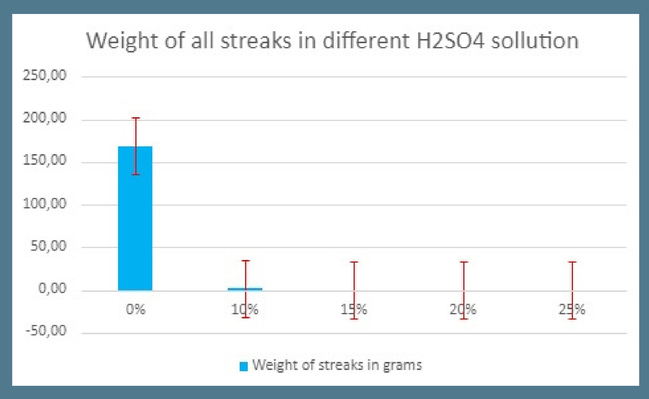
KOLEGIUM EUROPEJSKIE
CENTRUM EDUKACJI MIĘDZYNARODOWEJ W KRAKOWIE

Introduction

In many regions of the world, rain is the main source of water needed to grow crops. Because of that, crops, which are the source of food, can be significantly affected by acidic rains, which destroy crops. Acid rains affect all kinds of plants and animals. Our experiment was to show how big the effect is on wheat, the main source of food in many countries where wheat products are the basis of the diet.

Results





Our experiment showed that acid rains have a huge impact on growth of plants. 0% acidity sample has grown twice high as the 10% acidity sample, while samples of 15, 20 and 25% didn't grow at all. The weight of the plants that grew without acid was almost 150 times bigger than the one with 10% H2SO4 solution.

Method

In our project, we used a variety of minerals and instruments. Each of these elements was instrumental in completing this project. From lab equipment that allows us to make solutions to rulers and weights. We couldn't collect data or make comparisons without them.

We started by planting wheat seeds in five pots. Each of the pots was destined for different concentrations of H2SO4. We prepared the soil and watched growth while watering with H2SO4 solution twice a week. After seven weeks, we pulled wheat from the earth and took the measurement. After collecting the data, we entered it into Excel, and analizedthe data.

Conclusion

The results of our project are unequivocal. The solution of sulfuric acid with water has a terrible effect on wheat. Our experiment showed that even with only 10% of the solution the average length of a streak is two times shorter. In a time of 7 weeks, seeds only grew in pots where the solution was smaller or even to 10%.

Our experiment showed tlhat even a small amount of sulfuric acid in water affects wheat in a significant way. The weight of the crops is 83 times smaller in a 10% solution of H2SO4.

Our experiment helped us understand the effect that acid rain has on crops nonetheless we don't know how H2SO4 will react with mineral water and other unexpected variables.