

## Introduction

Acid rain is the term for rainfall that has become acidic due to air pollution. The main reason for them is human activity, such as industrial processes and burning fossil fuels. In Cracow, the average acidity of rains is 1.1%. We wanted to check whether or not, and how does this affect the natural environment.

We have decided to check how the acidity of the soil affects plant growth. As our test sample, we have chosen wheat due to its quick growth and  $H_2SO_4$  as the acid, because it is one of the main components of acid rains.



## Results

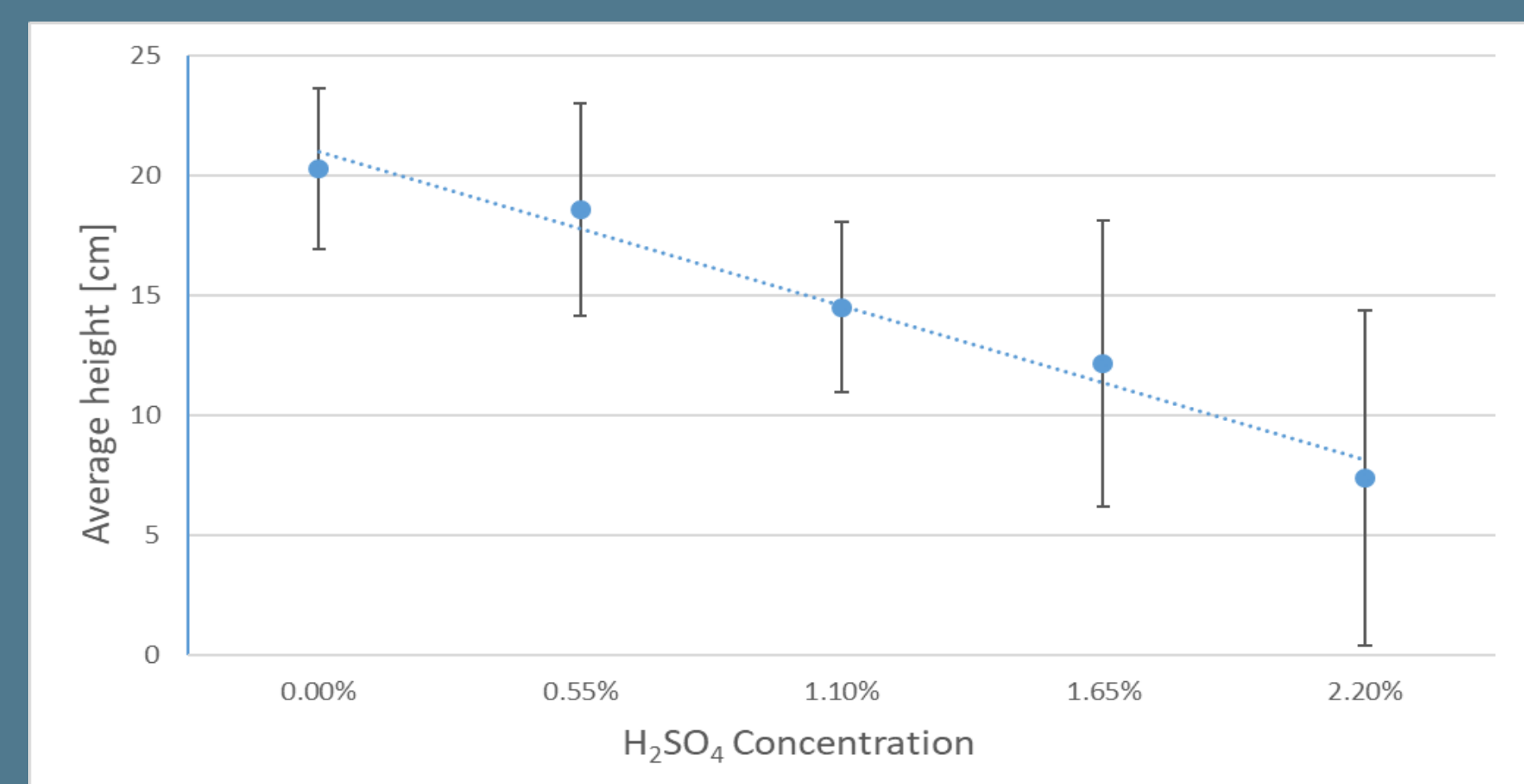
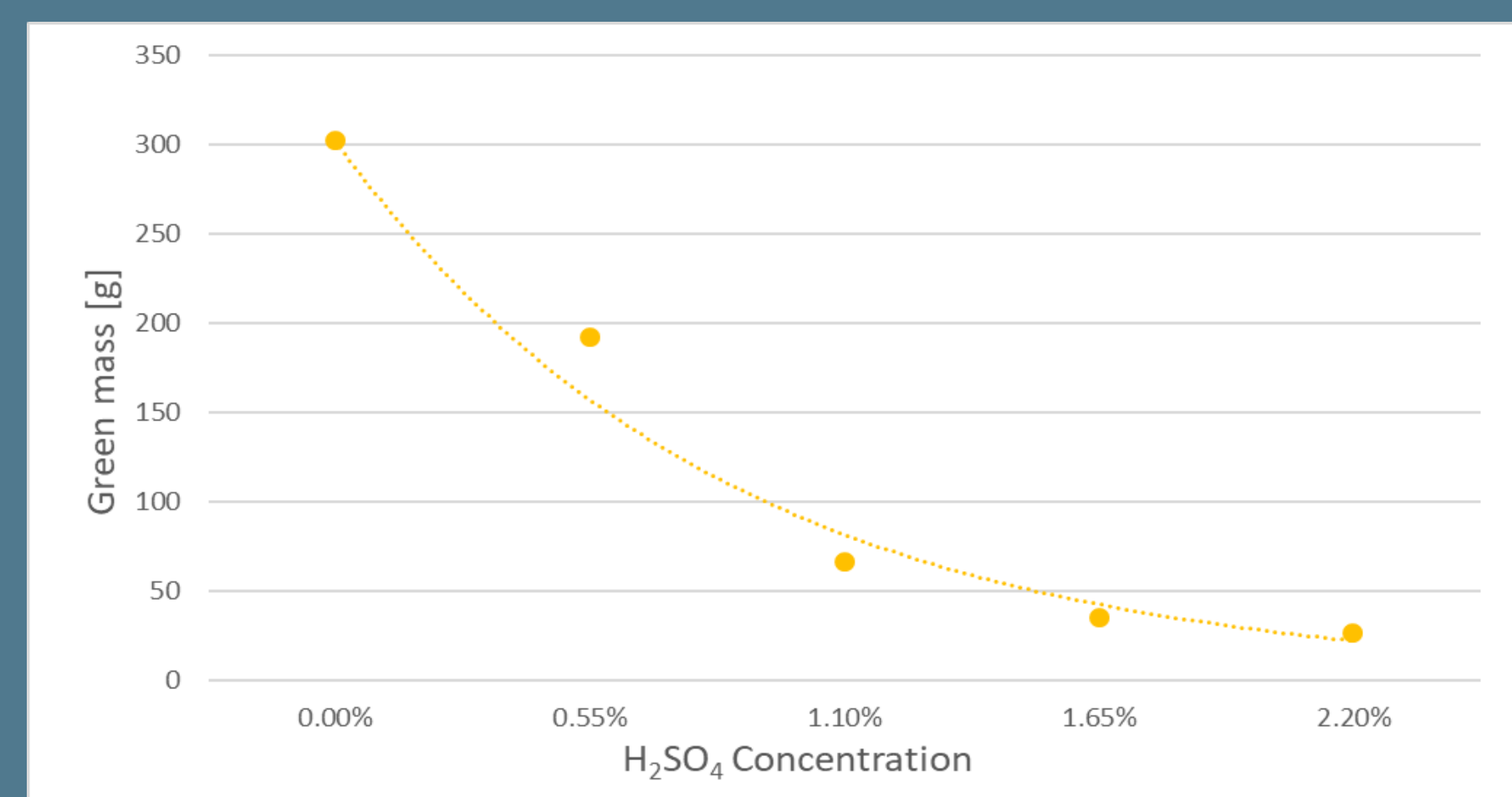
On the graphs, we can notice the correlation between the level of acidity and growth of the wheat

Green mass approximately follows exponential trend:

$$y = -3.2133x + 24.207$$

Average height approximately follows linear trend:

$$y = 581.8e^{-0.655x}$$



## Method

We grew 100g of wheat seeds in five different pots, each of them being watered with different solutions of  $H_2SO_4$  - 0%; 0,55%; 1,10%; 1,65%; 2,20%.

All pots had the same conditions, planted 2cm deep into the soil with pH oscillating around 6, all samples were lit equally, beside the window.

The samples were watered twice a week with aforementioned solutions. The experiment lasted two weeks.



## Conclusion

- Our research has confirmed that acidic rains have a negative effect on wheat growth and soil.
- We noticed that the difference in green mass is huge, even between 0% and 0.55%. It is almost 37%
- This means that eliminating acid rains even by a bit can have a crucial effect on the environment.
- Defeating acid rains will help achieve SDG number two - zero hunger. Acid rains destroy crops, which are the main source of food.
- They also contaminate water and change its pH levels. This can kill sea life, which many people rely on for food.

