Overcrowding: Is It a Problem?

Wolf, Sydney (School: The Academies at Jonesboro High School)

The purpose of this experiment is to observe how overcrowding in soybeans affects their growth. To investigate this idea, the student planted one to eight seeds of 2 soybean varieties in 5 containers each. The seeds were spaced the same distance from each other depending on the number of seeds in the container. The plants were watered and measured daily for growth. The first variety is Roundup soybeans and the second variety is Tofu Soybeans. The independent variable was the number of soybeans in each container. The dependent variable was the growth of the soybeans plants. The controlled variables were the amount and type of water given, the amount of sunlight, the type of plants, and the type of soil. After analyzing the data, it was found that soybeans could grow more when close together, than when alone. On the sixth day, some of the seeds in both varieties sprouted. The growth of every container of soybeans continued to progress daily. However, contradicting the hypothesis, the containers with higher amounts of seeds grow more exponentially compared to the container with a single seed. On day 10, the average growth of the eight seeds container to the one seed container for variety one is 7.06 to 3.50, which gives us evidence that the null hypothesis is true. The null hypothesis is also true when looking at variety two's average growth of the two containers which is 3.19 to 2.8. This style of growth was continued throughout the entire experiment. All of the containers had at least the majority of the soybeans sprout. In conclusion, the soybean plants grew taller together than apart. This allows farmers to minimize wasted space to maximize their production.

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