



CALIFORNIA STATE SCIENCE FAIR 2010 PROJECT SUMMARY

Name(s) Kyle N. Markfield	Project Number J1217
Project Title Algae Attack	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective was to determine if a constant increase of fertilizer causes an increase of algae growth, and to determine if a green fertilizer will cause less algae growth than a fertilizer containing nitrogen and phosphate.</p> <p>Methods/Materials I added 30 ml. of lake water to 7 Petri dishes. The first dish was labeled #1 and was the control. Petri dishes #2-4 had fertilizer containing nitrogen and phosphate added to them. Dish #2 had 1ml added, dish #3 had 2ml added, and #4 had 4ml added. In dishes #5-7 green fertilizer was added with the same amounts used in dishes #2-4. After 2 weeks I measured the amount of algae growth in each dish. My results led me to perform another experiment. I placed a 2cm algae sample into Petri dish #2, and a 2cm algae sample in a Petri dish with just 30 ml of lake water. I observed the dishes the next day. In my last experiment I put 30 ml of lake water in 3 Petri dishes. The first dish no fertilizer was added. The next Petri dish I added one drop of fertilizer which contained nitrogen and phosphate, and the last Petri dish I added one drop of green fertilizer. After one week I measured the amount of algae growth in each of my Petri dishes.</p> <p>Results In my first experiment 2% of Petri dish #1 had algae growth. This was my control dish. Petri dishes #2-4, which was the fertilizer with nitrogen and phosphate, had 0% algae growth. In Petri dish #5, 8% of the dish had algae growth. In Petri dish #6, 17% of the dish had algae growth and Petri dish #7, had 24% algae growth. In my second experiment the 2cm algae sample in my control was still green, but the 2cm sample placed in Petri dish #2 was brown and appeared dead. In my final experiment the fertilizer with nitrogen and phosphate had the most algae growth. It had 2% of its dish covered in algae. The green fertilizer and the control both had .5% of their dishes covered in algae.</p> <p>Conclusions/Discussion My conclusion is that fertilizer with nitrogen and phosphate does increase algae growth in lake water, but also can kill algae if too much of it is added. I also concluded that fertilizer with nitrogen and phosphate increases more algae growth than green fertilizer does when a small amount is added. Another thing I can conclude is that an increased amount of green fertilizer does produce an increase amount of algae growth. Both fertilizers increased algae growth and can be harmful to the environment.</p>	
Summary Statement My project is the affects traditional and green fertilizers have on algae growth.	
Help Received My mother helped me download pictures, and my father helped me graph my results onto the computer.	