

Matthew Mandelski

Zofie Mandelski

Junior Division Environmental Sciences

The Healthiest Spirogyra

The purpose of the experiment was to determine the level of pH in water that was best for the growth of Spirogyra Algae. Under the microscope, the healthy Spirogyra is green and has a spiral shape made up of rectangular pieces connected together with circular pieces. Our hypothesis was that the Spirogyra Algae would grow the best in water with a pH level of 7. A pH of 7 is the neutral level between alkaline and acidic. Pond water was sterilized and divided into six (6) jars. The Spirogyra culture was added to each jar and was left to grow for 48 hours. All six of the samples were viewed and all were healthy. After 48 hours, Limestone Powder and Sulfuric Acid were used to increase and decrease the pH levels in each jar. The plan was to change the pH levels in the six jars to obtain levels of pH 3 to pH 8. However, we did not have proper formulas to determine the proper amounts of Limestone and Sulfuric Acid to obtain these pH levels. Thus, we ended up with pH levels of 0 to 13. The Spirogyra was re-examined 24 and 48 hours after the pH levels were changed in each jar. The Spirogyra in the water with pH levels below 6 was not healthy. After 48 hours, only the Spirogyra in the water with the pH levels of 6 and 13 were still healthy. In conclusion, our data indicates that Spirogyra Algae grows best in water with higher (alkaline) pH levels.