

Toxic and Harmful Algal Blooms *“Making Algae Bloom”*

Materials: algal culture (can be obtained from a scientific or aquarium supplier or even from a classroom aquarium), water (fresh or salt depending on the algae used), 250-500mL clear glass or plastic containers, aluminum foil, available light source (sunny window is fine), droppers or pipettes, liquid plant fertilizer, wax pencils

Procedure:

1. Provide each lab group with two containers. (The replication of the treatments is across the entire class). Label the containers with the wax pencil:

Group #, +Nutrients
Group #, Control

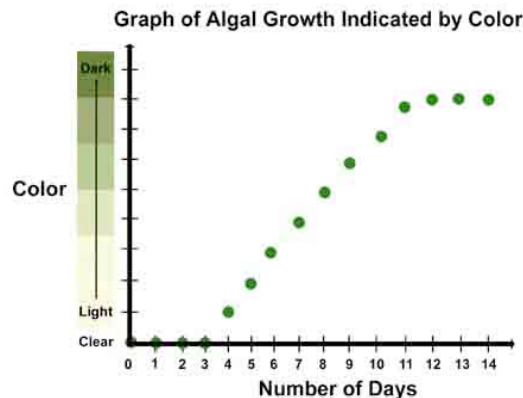
2. Add an equal amount of water to each container.
3. Add an equal amount of algal culture (a few drops) to each container.
4. Cover the top of the container labeled “Control” with a piece of foil.
5. Add an equal amount of liquid fertilizer to each “+Nutrients” container.
6. Cover the top of the container labeled “+Nutrients” with a piece of foil.
7. Place all containers in a sunny window where they can receive equal amounts of light and they can be exposed to the same temperatures (don’t place some on a heater and others near the open window).
8. Over the course of 1-2 weeks, make observations (e.g. color, opacity, smell) on the algal cultures in each of the containers.

Here are some example color charts that you can use to track the growth of your algae. Different species of algae will be different colors. Choose the color that matches your species, pick up a color chart in the paint aisle of your local hardware store, or create a color chart of your own.



- Write up the observations as a short report. Create a graph to illustrate the findings with algal growth (determined by color) on the y-axis versus number of days on the x-axis.

Here is an example of how you might want to graph your data from your experiment. This is not the only way to show the data; you might think of another way that works just as well.



In your report, make sure to describe what was seen, whether or not the hypotheses were supported and why, and how to improve the experiment next time. At the end of your report, write a paragraph about how algal blooms like the ones in the experiment might occur in lakes and oceans in the real world.

http://www.bigelow.org/edhab/building_bloom.html#activity