

THE JAR TEST PROCEDURE

Purpose

Look out over the pond and see if the water looks very green. To decide whether the “green” is blue-green algae in the pond, or just an overabundance of some of the more beneficial types of planktonic algae, a simple test can be conducted called the “jar test.”

Follow this step by step process to make an initial assessment of the pond in question.

Materials

- Clear jar (pint to quart size) – A Mason (canning) jar or a store bought pickle jar with the label removed works well.
- Rubber or latex gloves.

Procedure

1. Find an appropriate clear glass jar with a screw top lid.
2. For safety reasons, use rubber or latex gloves to collect a sample of water from the pond in question to prevent skin exposure.
3. Collect the water just below the surface of the water.
 - a. DO NOT collect sample directly from the surface, but collect just under the surface to avoid collecting just the scum on the top layer of the water.
4. Fill the jar about $\frac{3}{4}$ of the way full with the pond water. (See Photo 1.)



Photo 1 - Initial Sample

5. Wipe off any scum that may be on the outside of the jar.
6. Screw the lid onto the jar.
7. Place the jar in a cold refrigerator and leave it completely undisturbed overnight.
8. The next day, **carefully** remove the jar from the refrigerator and look to see where the algae have accumulated.
 - a. **IT IS VERY IMPORTANT**, that you do not shake or agitate the jar in any way. If you do, this will mix the algae into the water again and you will not get test results that are useable.

9. If the algae are all settled out near the bottom of the jar, then that is a likely indication that the lake does not have a lot of blue-green algae growing in it. (See arrow on Photo 2.)



Photo 2 – No Blue-greens

10. If the algae have formed a green ring around the top of the water in the jar, or just seem to be collected at the air/water divide, there is a strong possibility that the pond does have a blue-green algae community present. (See arrow on Photo 3.)



Photo 3 – Yes Blue-Greens

THE STICK TEST PROCEDURE

Purpose

Look out over the pond and see if a mat of green material is floating on the surface. Is it blue-green algae forming a surface scum, or is it a mat of floating filamentous green algae (often called “fisherman’s moss” and “string” algae)? A simple test to determine what the material might be is called the “stick test.”

Materials

- Sturdy stick – Make sure it is long enough to reach into the water without getting algae on your hands.
- Rubber or latex gloves

Procedure

1. Find a sturdy stick.
2. Put rubber or latex gloves on before attempting to retrieve a sample of the green material from the pond to prevent skin exposure.
3. Thrust the stick into the surface mat and slowly lift out of the water.
 - a. Make sure you do not fall into the water while attempting to retrieve material.
4. Look at the end of the stick to see what came out of the water.
 - a. If the stick comes out looking like it has been thrust into a can of paint, the mat on the pond is likely to be a blue-green algae scum.
 - b. If the stick pulls out strands that look like green hair or threads, the mat on the pond is likely filamentous green algae. (Although filamentous green algae can be a nuisance when over-abundant, they do not pose a danger to your health.)(See Photo 1.)



Photo 1 - Filamentous algae

Note: The stick test can fail when a particular type of blue-green algae is present. This type of algae is called *Lyngbya wollei*. This species of blue-green algae can form tough filamentous mats that float to the surface, similar to the mats formed by harmless filamentous green algae. However, *Lyngbya wollei* typically will have a very putrid sewage-like odor which filamentous green algae do not. *Lyngbya wollei* mats also will often release a purple pigment in the water around them, which is something filamentous algae do not do. (See Photo 2.)

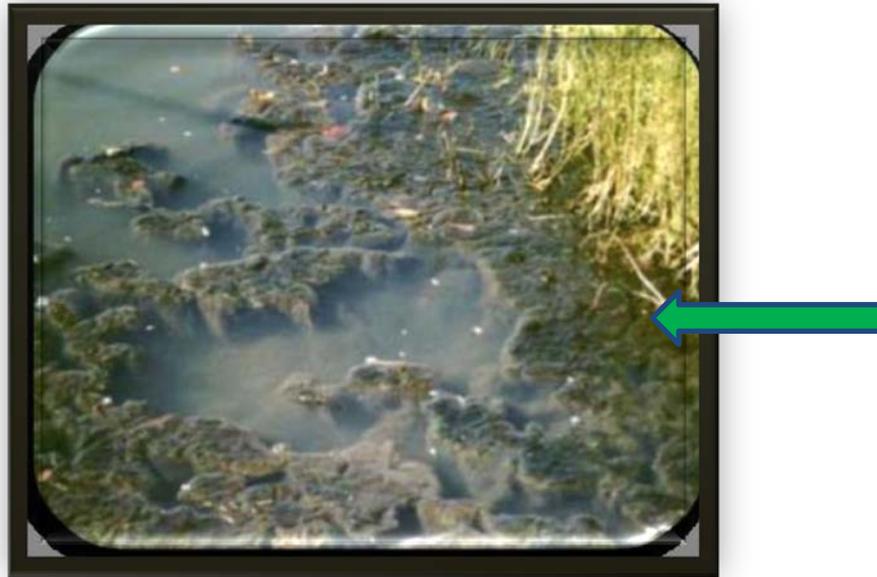


Photo 2 - *Lyngbya wollei*