ALGAE AWARE
INITIATIVE

@algae.awareinitiative

STORMWATER SOLUTION KIT

Your Kit Guide

Test the water near your home, then use your kit to help keep algae out.

ON OUR WEBSITE YOU CAN

Report a bloom
Seen green or scummy water?

Log your results
Add your strip readings

algaeawareinitiative.org

Both go on the Water Atlas, a public map of local lakes and rivers. A person checks each one first, and locations are rounded so your address stays private.

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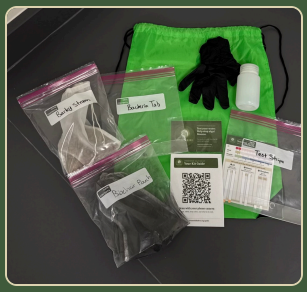
START HERE

Report a bloom or log a test

What's in your kit

Your kit has two parts. The **test** items show what's in the water. The **action** items help keep algae from growing.

Most items come in their own labeled bag. The QR card that opened this guide is in the kit too.



A finished kit

TEST



Sample bottle
4 oz (about 120 mL). Holds the water you test.



Test strips
2 each: nitrate, phosphate, and pH. Keep them sealed and dry.



Gloves
1 pair, black. Wear them when you touch the water.



QR card and strip card
The QR card opens this guide. The strip card shows which strip is which and the colors to match.

ACT



Barley straw pouch
White mesh bag of pellets. Helps stop new algae in a pond.



Bacteria tab
1 white tablet in a labeled bag. Adds helpful bacteria to a pond.



Biochar pouch
Gray cloth bag. Catches some dirt in rainwater runoff.

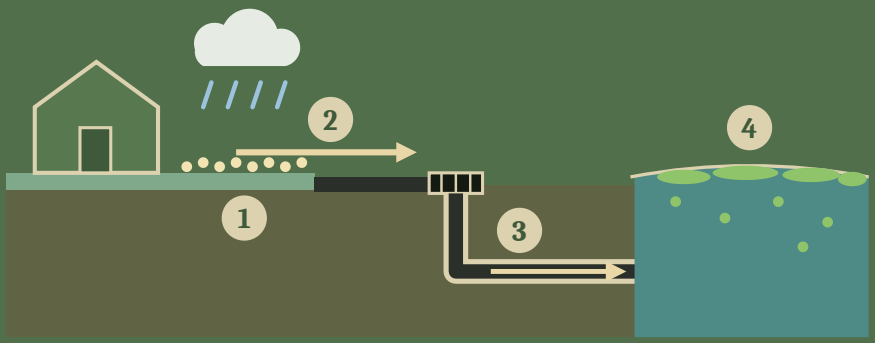


Drawstring bag
Green bag that holds it all. Keep it and reuse it.

Until you use it: keep your kit somewhere cool and dry. Leave everything sealed in its labeled bag until you need it.

Report a bloom or log a test

Where algae gets its food



1. Fertilizer and grass clippings sit on the lawn.
2. Rain washes them into the street.
3. The storm drain pipe carries them to a lake.
4. Algae feed on them and grow.

- **Algae** are tiny plant-like living things in water. Some kinds, called blue-green algae, can make toxins. Algae grow faster when the water has extra nitrogen and phosphorus.
- Lawn fertilizer, grass clippings, pet waste, and septic tanks all add these nutrients.
- When it rains, water runs off lawns and streets into storm drains. Most storm drains carry that water **to a pond, lake, or river** without cleaning it first.
- Too many nutrients can cause an **algal bloom**. Some blooms make toxins that can make people and pets sick. When a bloom dies and rots, it can use up the oxygen that fish need.

26%

of the nitrogen reaching groundwater around Wekiwa and Rock springs comes from lawn fertilizer. That is the part of the problem each of us can change at home.

 Source: Florida DEP, Wekiwa Spring and Rock Springs Basin Management Action Plan, 2018.

Stay safe near the water



Wear the gloves



Wash your hands after



Never drink it



Keep dogs out of scummy water

1. **Wear the gloves** when you collect and test water.
2. **Wash your hands** with soap and water when you are done, even if you wore gloves.
3. **Never drink** the sample water, and don't let it touch your mouth or eyes.
4. **Stay on the shore.** Don't wade in to get a sample. Kids should test with an adult.
5. **Watch for wildlife** at the water's edge, like alligators, crocodiles, or snakes.
6. **Keep kids and pets out of bad-looking water.** If water looks scummy, looks discolored, or smells bad, stay out of it. This is very important for dogs. They can get very sick from algae toxins.
7. **Don't test a bloom.** If the water looks like green paint or pea soup, or has scum on top, don't touch it. Report it instead (see page 14).

IF SOMEONE GETS SICK

If a person feels sick after touching bloom water, call **Poison Control at 1-800-222-1222** (in the U.S.). In an emergency, call 911 or your local emergency number. If a pet gets sick, call your vet right away.

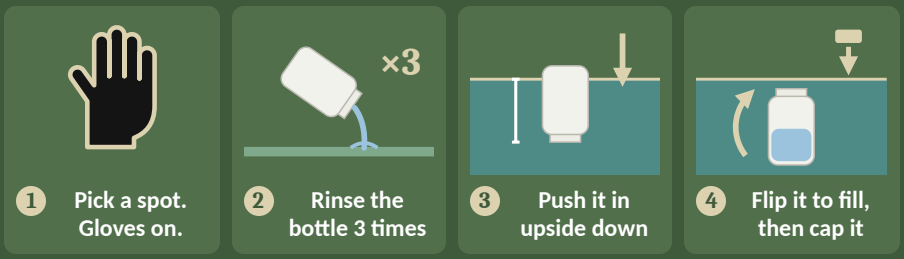
BEFORE YOU SWIM OR FISH

In Florida, check for health alerts at **ProtectingFloridaTogether.gov**. Outside Florida, check with your local health department. Boiling water does not remove algae toxins.

Source: Florida Department of Health, blue-green algae health alerts, 2026.

Report a bloom or log a test

Take a water sample



1. **Pick a spot and put on your gloves.** A lake, pond, canal, or ditch near your home that you're allowed to visit. Write down the place, date, and time on page 12.
2. **Rinse the bottle 3 times.** Fill it with the water you are testing, cap it, shake it, and pour it out on the ground.
3. **Hold the bottle upside down** and push it under the water, about as deep as your hand is long. This keeps out floating scum and leaves.
4. **Turn it up under the water** so it fills. Pull it out and screw the cap on.
5. **Test it soon,** within an hour if you can. Keep it out of the sun until then.

MAKE YOUR STRIPS COUNT

You have 2 of each strip. Test 2 different places, or test the same place twice: once on a dry day and once right after a big rain.

Report a bloom or log a test

Use the test strips

Test **one strip at a time**, in this order. Your kit shows which strip is which. Do steps 1 to 5 for each. Use a phone timer or the strip timer on **our website**.

DO FIRST	SECOND	THIRD
pH	**Nitrate**	**Phosphate**
Dip	Dip	Dip
1 to 2 seconds	**2 to 3 seconds**	**1 second**
Read	Read at	Read at
Within 30 seconds	**30 seconds**	**3 minutes**

Why pH first? Phosphate only reads right at pH 6 to 9. If your pH is outside that, write "pH was off" in your notes.



1 Dip it



2 Shake off extra water

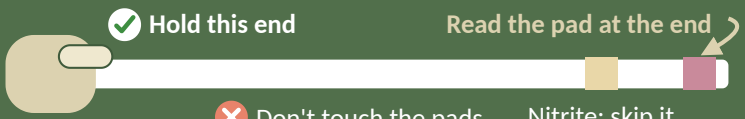


3 Wait the exact time



4 Match it to the strip card

1. **Dip it.** Take out one strip and keep the rest sealed (moisture ruins strips). Hold the end with no pads. Dip the pads in your bottle for the time above.
2. **Shake it.** Pull it out and shake off the extra water.
3. **Wait.** Start a timer. Lay the strip pad side up on something clean and dry.
4. **Match it.** In daylight, hold the pad at the very end next to the colors on your strip card. See page 7.
5. **Write it down** on page 12, then log it on our website.



 Source: Bartovation test strip bundle (Amazon listing and product directions).

Read your strips

Hold the pad at the end of each strip next to the **colors on the strip card in your kit** and pick the closest color. The charts below are a backup. **ppm** means parts per million. These strips are made to catch **high** levels, like runoff from a fertilized lawn, so most lakes read 0. That is normal.

NITRATE read at 30 seconds



ppm	0	10	25	50	100	250	500

0: Common. The strip can't see small amounts, so this does not prove the water is clean.

10 or more: A lot of nitrogen. 10 ppm already matches Florida's highest nitrogen limit for any lake.

PHOSPHATE read at 3 minutes, in ppm phosphorus



ppm	0	10	25	50	100

0: Common. The strip can't see small amounts, so this does not prove the water is clean.

10 or more: A lot of phosphorus. Even the first mark is many times more than Florida allows in any lake.

pH read within 30 seconds



pH	1	2	3	4	5	6	7	8	9	10	11	12	13	14

6 to 9: Normal for most lakes. **Above 9** on a sunny afternoon can mean lots of algae. **Below 6** is acidic, which is natural in some Florida lakes.

Use the strip card when you can. Screens show colors a little differently, so if you use the charts here, read in daylight with your brightness up. A high reading means extra food for algae, not that the water is toxic. Turn to page 8 for what you can do.

Florida's lake limits: no more than 2.23 mg/L total nitrogen, and 0.16 mg/L total phosphorus in most of the state (Florida Administrative Code Rule 62-302.531). 10 ppm nitrate equals about 2.3 mg/L nitrogen. Chart colors are copied from our Bartovation vials and are approximate.

TAKE ACTION

Report a bloom or log a test

What you can do

Most of the nutrients in a lake come from the land around it. Whether your numbers are high or low, these steps cut what washes off your yard.

1. **Use less fertilizer.** Only use what your lawn needs, and follow the directions on the bag. Never fertilize right before a heavy rain.
2. **Follow local fertilizer rules.** In Orange and Seminole counties in Florida, fertilizer with nitrogen or phosphorus is not allowed from June 1 to September 30. Keep it at least 15 feet (4.5 m) from water in Seminole County and 25 feet (7.6 m) in Orange County. Anywhere else, check your city or county rules.
3. **Keep the street clean.** Sweep grass clippings and spilled fertilizer back onto the lawn. Never blow them into the street or a storm drain.
4. **Pick up after your pet.** Pet waste is full of nutrients.
5. **Take care of your septic tank.** If your home has one, have it checked and pumped on schedule.
6. **Slow the rain down.** Point downspouts onto grass, add a rain barrel, or plant a rain garden. A rain garden is a low spot with plants that soaks up runoff.
7. **Use your action items.** The barley pouch, bacteria tab, and biochar pouch are on the next 3 pages.

TEST AGAIN

After you make a change, test the same spot again in a few weeks and compare.

Sources: Seminole County Fertilizer Ordinance; UF/IFAS Orange County Extension, Orange County fertilizer rules.

Report a bloom or log a test

Barley straw pouch

4 oz	250	4 to 6	3
(about 110 g) of pellets	gallons (950 L) it treats	weeks to work, often sooner	months until you replace it

What it does. As barley straw breaks down in water, it gives off natural compounds that help stop new algae from growing. It **prevents** new algae but does **not** clear a bloom that is already there.

Where to use it. A backyard pond, fountain, or water feature that you own. No pond? Give it to someone who has one. Never put it in a lake or other public water.



Near the surface, where the water moves



Not sunk in the muck or in still water

1. **Take out the white mesh pouch.** Keep the pellets inside the mesh.
2. **Put it near the surface where the water moves,** like by a fountain or pump. Tie it to a float if it sinks.
3. **Be patient.** It usually takes 4 to 6 weeks, but you may see clearer water sooner. Any cloudiness at first is normal and clears in 1 to 2 days.
4. **Replace it** about every 3 months. Garden stores sell barley pellets.

DON'T USE TOO MUCH

Too much barley uses up the oxygen fish need. One pouch is for about 250 gallons (950 L). Smaller pond? Pour out some pellets first: keep half for 125 gallons, a quarter for 60 gallons.

Pond size: length × width × average depth in feet × 7.48 = gallons. In meters, × 1,000 = liters.

Nature's Choice label: 1/2 lb treats 500 gallons. Replace every 3 months.

Report a bloom or log a test

Beneficial bacteria tab

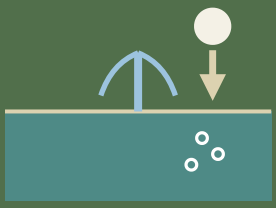
1	100	50°F+	1
tab in your kit	gallons (380 L) per tab	(10°C+) water works best	new tab every week

What it does. The tab fizzes and releases helpful bacteria. They break down muck, dead leaves, and fish waste. That leaves less food for algae.

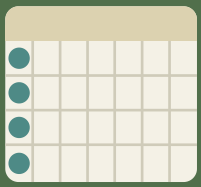
Where to use it. A backyard pond or water feature that you own. No pond? Give it to someone who has one. Never put it in a lake or other public water.



1 tab for every 100 gallons (380 L)



Drop it where the water moves



Add a new tab each week

1. **Keep the tab dry** until you use it. Store it at room temperature.
2. **Drop it where the water moves the most,** or right into a problem spot. For a small container under 20 gallons (75 L), use half a tab.
3. **Keep it going.** One tab is a starter dose. Add a new tab once a week. For a new pond or the start of the season, add one twice a week for the first 2 weeks. Refills are sold as Aquascape Beneficial Bacteria Bubble Tabs, or use a similar pond bacteria product.

DON'T

- Don't add a tab for several days after using an algaecide or other pond chemical. The chemical can kill the good bacteria.
- Don't expect fast results in cold water. The bacteria work slower below 50°F (10°C).
- Keep tabs away from children.

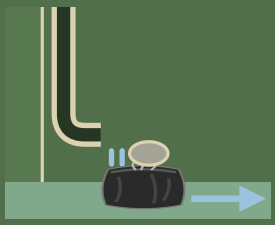
10 Dosing, temperature, and storage from the Aquascape Bacteria Bubble Tabs label.

Report a bloom or log a test

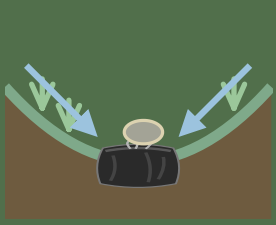
Biochar filter pouch

What it does. Biochar is a kind of charcoal full of tiny holes. When rainwater flows through the pouch, it slows down, and some of the dirt and pollution can get caught before the water moves on.

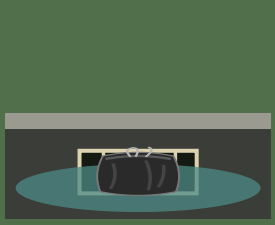
Where to put it (on your own property, where rainwater flows):



✓ Under a downspout



✓ Low spot in a rain garden or ditch



✗ Never on a storm drain

1. **Take the gray cloth pouch out of its labeled bag.**
2. **Put on your gloves** and wet the pouch with a hose so the black dust doesn't blow around. Don't breathe in the dust.
3. **Lay it flat where the water flows,** so the water has to pass through it.
4. **Weigh it down** with a rock or brick so it doesn't wash away.
5. **Swap it** for fresh biochar about every 2 months. Check it after big storms. Look for "100% biochar" at garden stores.

DON'T

- Never put it inside a storm drain or on top of a drain grate. A blocked drain can cause flooding.
- Don't overstuff the pouch. Water needs room to pass through.
- Never dump used biochar into water or a drain. Mix it into garden soil or compost.
- Keep it away from kids and pets, and wash your hands after you handle it.

TRACK IT

Report a bloom or log a test

Results log

Write your results here, or copy this table into your phone's notes.

DATE, TIME	PLACE	pH	NITRATE PPM	PHOS. CHART #	NOTES

Good notes: water color, smell, scum or no scum, and whether it rained in the last 2 days.

CLEAN UP

- Pour the used sample on the ground, away from the water, or down a sink. Don't pour it back in.
- Rinse the bottle with tap water and keep it for next time.
- Used strips and gloves go in the trash.
- Wash your hands with soap and water.

LAST STEP: PUT IT ON THE MAP

GO TO OUR WEBSITE

Report a bloom
Seen green or scummy water?

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algaeawareinitiative.org

Both go on the Water Atlas, a public map of local lakes and rivers. A person checks each one first, and locations are rounded so your address stays private.

You can also tag us on Instagram at **@algae.awareinitiative**.

Refills and new kits

Want another kit?

For a friend, a neighbor, or your class: request one at **algaeawareinitiative.org/involved**, or email us (addresses on page 14).

REFILL IT YOURSELF



Test strips

Bartovation strips: nitrate (PWQ08V50), phosphate (PWQ09V50), and pH (PPH01V100). Sold online.

Same brand, so your colors still match the strip card and our website.



Barley straw pellets

Pond barley pellets, like CrystalClear Nature's Choice. Pond and garden stores, or online.

Every 3 months, put the old pellets in compost and refill the pouch with 4 oz (110 g).



Bacteria tabs

Aquascape Beneficial Bacteria Bubble Tabs. Pond stores, or online.

1 tab per 100 gallons (380 L), once a week.



Biochar

A bag marked "100% biochar," like Wakefield or Char Bliss. Garden stores, or online.

Every 2 months, mix the old biochar into garden soil and refill with about 1 cup.



Gloves

Any disposable nitrile gloves. Drugstores and hardware stores.

Use a fresh pair each time you test.



Sample bottle and bag

No need to buy new ones.

Rinse the bottle and reuse it. Keep the green bag for your refills.

Outside the U.S.: brands differ by country, so buy what a local garden or pond store sells. With a different strip brand, match colors to the chart on its package, not our strip card.

ALGAE AWARE
INITIATIVE

Report it online: algaeawareinitiative.org

@algae.awareinitiative

REPORT A BLOOM

See a bloom? Report it.

Signs of a bloom: water that looks like green paint or pea soup, scum or mats floating on top, or a bad smell. Don't touch it or test it. Take a photo from a safe distance. Report it to the state, and add it to our map at **algaeawareinitiative.org/report**.

IN FLORIDA

Algal bloom
Florida DEP · ReportAlgalBloom.com
Phone line: Mon to Fri, 8 a.m. to 5 p.m.
1-855-305-3903

Dead fish or sick wildlife
Florida Fish and Wildlife Conservation Commission
1-800-636-0511

A person feels sick
Poison Control (U.S.). In an emergency, call 911.
1-800-222-1222

Check alerts before you swim or fish
State water and health alerts
ProtectingFloridaTogether.gov

Outside Florida: report blooms to your state or local environmental agency. If someone is very sick, call your local emergency number.

ABOUT US

Algae Aware Initiative is a student-led 501(c)(3) nonprofit from Trinity Preparatory School in Central Florida. Questions about your kit? Email us:

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 Contacts: Florida Department of Health and ProtectingFloridaTogether.gov, 2026.