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What are blue-green algae?

Blue-green algae are not true algae. They are really bacteria that grow in fresh water lakes, ponds and wetlands. They are photosynthetic bacteria, and their scientific name is *Cyanobacteria*. They usually occur only in small numbers and are so small they are invisible to the casual observer.

What are blooms?

When conditions are favourable (most often in July and August) the numbers of algae can increase dramatically and they become easy to see. This condition is called a "bloom". When this happens huge numbers of algae grow and accumulate on the surface of lakes and ponds, to the point where there are so many of them the surface of the water resembles thick "pea soup", often blue-green in colour. Although these blooms occur naturally, water bodies which have been enriched with plant nutrients from municipal, industrial or agricultural sources are particularly susceptible to these growths.

Why are blooms important?

Blooms are unsightly. But more important, blue-green algal blooms can be toxic if ingested by wildlife, livestock or people.

How are these blooms toxic?

There are two types of toxins (poisons) produced by strains of blue green algae:

- **Neurotoxins**, which affect the nervous and respiratory systems. These toxins can cause muscle tremors, stupor, staggering, rapid paralysis, respiratory failure and - often within 30 minutes - death. The bodies of animals which die from this toxin are usually found close to the lake or pond where they drank water contaminated with blue-green algal bloom.
- **Hepato-toxins**, which affect the liver and can cause a slow death, up to 36 hours or longer after drinking water contaminated with toxic strains of blue-green algae. Animals who get sick after consuming sufficient amounts of this toxin may show jaundice (yellowing of the mucous membranes or the white of the eye), and photo-sensitization (a sensitivity to sunlight).

How are animals exposed to blue-green algae?

If livestock or other domestic animals have no other source of drinking water, they may be poisoned by having to drink water from open water bodies (lakes, ponds) contaminated with toxic strains of blue-green algae, particularly in the interior of British Columbia.
The most common poisonings happen to cattle. In some cases, wind may blow the algae floating on the surface towards the edge of the shoreline, concentrating the algae along that part of the shore. Older livestock may wade out into the lake beyond the bloom before they drink, and may not be affected. Young livestock usually drink closer to the shore and are more likely to be poisoned.

How are people exposed to blue-green algae?

Humans are just as much at risk as animals from the toxic effects of certain strains of blue-green algae in untreated drinking water.
Water during a bloom looks bad and smells bad. It is unlikely that older children or adults will drink this water voluntarily. However, younger children may be **less** careful, or unaware of the danger of drinking water contaminated with algal bloom.
After drinking water contaminated with toxic blue-green algae, you may experience symptoms such as fever, dizziness, stomach cramps, vomiting or sore throat. These symptoms may last for several days.

How can we prevent poisoning from blue-green algal blooms?

Some blue-green algal blooms are more toxic than others, so ALL blooms should be treated with caution. One of the first signs of toxin contamination in a water body is the presence of stressed, sick or dead wildlife, waterfowl or livestock along the shoreline.
If you see any dead or distressed animals along a shoreline, especially where an algal bloom is obvious, contact the nearest Ministry of Health office and the nearest BC Environment office, as soon as possible. If livestock are affected, contact your veterinarian or the nearest office of B.C. Ministry of Agriculture, Fisheries and Food.
Water suspected of being contaminated with toxic strains of blue-green algae can be sampled and tested for toxicity.

General precautions:

Do **not** drink untreated water from water bodies, whether you can see a bloom on the surface or not. As well as possible health risks from algal blooms, you can get sick from a number of other illnesses which are also spread by drinking untreated water, including Giardiasis or "Beaver Fever".

- Do not wade or swim in water containing visible blooms.
- If blooms are present, do not let livestock or pets get into the affected water. Providealternative sources of drinking water for livestock and pets.
- Blooms grow more quickly in non-moving or stagnant water. If possible, remove natural blockages in creeks flowing into or out of lakes or ponds to encourage the free flow of water.
- Divert surface runoff (e.g., rainwater) from livestock feedlots away from streams and lakes. Blooms flourish from runoff flowing through animal waste.

If a bloom is detected, how long will it last?

Fortunately, most blooms are short-lived. An affected area will likely be safe again in anywhere from a few days to a week or two. If you're not certain about the quality of the water, contact your local offices of the Ministry of Health or BC Environment.
If your concerns are related to livestock, contact your nearest office of the provincial Ministry of Agriculture, Fisheries and Food. Government office telephone numbers are listed in the blue pages of your telephone directory.

For further information about blue-green algae, contact your local Health Unit or Department.