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Blue-green Algae

Soon we will be experiencing warmer weather and as the weather starts to warm up, it is important to be on the lookout for Blue-green algae in ponds. Blue-green algae can occur in a pond as a result of runoff that carries nitrogen or phosphorus into the pond. When the temperature reaches 75 degrees or higher the algae will grow and bloom. A period of hot, sunny days with little wind following an increase in runoff from rain will also increase the likelihood of blue-green algae blooms. Blue - green alga includes many species of photosynthetic cyanobacteria (bacteria capable of photosynthesis) that live in the water. Cyanobacteria are a species of blue-green algae that produce toxins that are poisonous to animals. The toxins that result from harmful blooms of blue-green algae are stored in the cyanobacteria until they die, and as the cyanobacteria decompose the toxins are released into the water.

When blue-green algae rapidly reproduce, they form blooms that appear as a scum on the surface of a pond and may change the color of the water. These blooms of blue-green algae are cyanobacteria, also referred to as harmful algal blooms. Blue-green algae blooms are typically the worst in areas of the pond where water is stagnant due to minimal disturbance of surface water from wind and higher water temperature, such as a cove or inlet. Floating algal scums may also accumulate in downwind shores of lakes and ponds. Ponds that have little movement of surface water and are relatively clear are more likely to produce harmful blooms of blue-green algae due to the high amount of sunlight that is able to pass through the surface water of the pond.

Toxins from blue-green algae can affect the liver or the nervous system of animals that drink affected water. Animals that have consumed water from affected ponds may recover from toxins that affect the liver. However, if the toxins affect the nervous system of the animal, it often results in death. While there is currently no antidote or treatment for the toxin, supportive care can be given to animals that show signs of being sick and animals that have consumed toxins that have affected the liver can be treated to help them recover from the initial damage to the liver resulting from the toxins.

When a pond has a harmful bloom of blue-green algae, the water will have a scum that can vary in color from blue-green to gray and even red, orange, or brown. The scum will often resemble paint or a growth mat in appearance, and the water of a pond that has blue-green algae will often smell bad. If signs of a harmful bloom of algae are noticed in a pond, water samples should be taken from the pond and sent to the Kansas State Veterinary Diagnostic Laboratory to be tested. Until the water has been tested and is confirmed safe, animals should be kept away from the pond. Two weeks from when the algae bloom starts is the average length of time it takes to get rid of the toxin. However, if the pond has a blue-green algae bloom, it can last from days to months depending on the weather conditions. During this time animals should be kept away from the pond and the water should be retested before allowing animals access the pond again to ensure that there are no longer toxins in the water.

There are different options when it comes to treating a pond that has a blue-green algae bloom. One option is to use copper sulfate to kill the blue-green algae. However, this chemical will also kill green algae that helps keep blue-green algae in check and copper sulfate does not breakdown. Remaining in pond sediment where it can affect the ecology of the pond for many years. If sheep have access to the pond, copper sulfate should not be used, because sheep are sensitive to copper. It is also important to note, that when blue-green algae die after treating a pond with copper sulfate, toxins will be released and dispersed throughout the pond. Another option is to decrease the amount of sunlight available to blue-green algae, this can be done by spreading wheat straw in a thin layer across the surface of the pond to shade the algae and decrease the size of the algae bloom. A few short-term solutions to prevent blue-green algae include adding water soluble dyes to the water to reduce the amount of sunlight that can get to the pond or keeping the water in the pond moving by installing solar-powered aerators. To reduce the future risk of toxins forming in ponds, grass and buffer strips between fields and surface water can be maintained so that the movement of nitrogen and phosphorus into the pond will be slowed down.

Blue-green algae blooms are serious threats to the health of animals and may be fatal if the toxins affect the nervous system of the animal. Ponds that are suspected to have blue-green algae should be tested and animals should not be allowed access to the pond while waiting for the test results. If toxins are confirmed to be in a pond, animals should be provided water from a different source and should not be allowed access to the pond until there are no longer toxins in the water.

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