

Post Rock Answers

Week of: 6/25/18 – 6/29/18

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Post Rock District – Livestock

Better Safe Than Sorry When Dealing With Blue-Green Algae

Hot days, periods of drought, and stagnant stock water sources are all parts of the equation that leads to a supply of toxic cyanobacteria, better known as blue-green algae. Sounds a lot like the conditions in the Post Rock District, right? Thankfully, the occurrence of blue-green algae is relatively uncommon. However, when considering watering our livestock this summer, it is not something to go unnoticed. In fact, if blue-green algae has the opportunity to flourish in any given water source, livestock that drink the water will more than likely be dead within minutes. It is imperative for producers to keep eyes on their ponds for this reason.

While the exact causes of this cyanobacteria are unknown, it is proven that excess phosphorus and nitrogen can play a factor; making agricultural nutrient runoff something to be aware of. In Kansas, our most problematic form of blue-green algae is *microcystis*, a specie which often floats near the surface of ponds and therefore captures the greatest amount of photosynthesis. This version of the toxin will often be found in close quarters at the edges of ponds and, with continuous wind in one direction, will typically float towards the downwind side of the pond. Other forms of the cyanobacteria may be less buoyant and more widely dispersed throughout the pond, but are not as prevalent in our region.

Though blue-green algae content can vary within a single pond (some areas of water may be highly toxic while just a few feet away no toxins are present), it is best to assume the entire water source is contaminated if any sample comes back with toxic amounts of the cyanobacteria. Due to the fact that contaminated water can be so variable within the same source, livestock may never consumer harmful amounts of the toxin. However, if any portion of the water source tests positive, it is always considered to be unsafe for livestock and pets. At this point, no livestock should be watered, fish should always be thrown back, and we should avoid skin contact with the water due to possible irritation to skin or eyes that come into contact with it.

Producers have a couple of options for handling stock water that has been confirmed to have blue-green algal blooms. First, copper sulfate can be administered which will kill the cyanobacteria. Second, a thin layer of wheat straw can be spread across the pond in order to prevent the algae from obtaining enough sunlight (this will have to be done repeatedly as the straw sinks, washes up, or gets blown off), and finally livestock can be provided another water source which may or may not mean moving them to a different pasture and sacrificing the grass they are currently grazing. **It is important to note, these options all have pros and cons associated with them and should be discussed with local extension professionals, veterinarians, or other consultants to decide which method will be the safest and most effective for your operation.**

If blue-green algae is suspected in one of your water sources, tests should be taken in order to protect livestock and your bottom line. The following steps were adapted from K-State Research and Extension's "Identification and Management of Blue-Green Algae in Farm Ponds".

1. Locate portions of scummy water or water that looks like paint has been mixed in or areas of discolored water.

2. Use a clean, plastic, 20-ounce bottle and rinse it with the pond water first. Then fill the bottle and be sure to include pond scum if it is present. As aforementioned, avoid skin contact with areas suspected to be contaminated.
3. Once the bottle is full, screw the lid on tightly and put on ice or in a refrigerator. If the sample cannot be shipped on the same day, keep it cool until shipped. Similar to our procedure for testing green forages, try to avoid sending the sample late in the week so that it does not sit in the lab for extended periods of time.
4. Keep samples straight including your name, the location, and which water source at the location the sample was taken. Contact your local Post Rock Extension office for further assistance or direction in packaging and sending in samples.

Source:

Blocksome, Carol; Hollis, Larry; Van Der Merwe, Deon “Identification and Management of Blue-Green Algae in Farm Ponds” MF-3065, Kansas State University Agricultural Experiment Station and Cooperative Extension Service, July 2012

Post Rock Extension District of K-State Research and Extension serves Jewell, Lincoln, Mitchell, Osborne, and Smith counties. Barrett may be contacted at Barrett8@ksu.edu or by calling Smith Center, 282-6823, Beloit 738-3597, Lincoln 524-4432, Mankato 378-3174, or Osborne 346-2521. Join us on Facebook at “Post Rock Extension” along with our blog site at postrockextension.blogspot.com. Follow us on Twitter @KSRE_PostRock. Also remember our website is postrock.ksu.edu