



Season 4, Episode 7: Water Biology vs. Water Quality

Gabi Doughan and Becca Walthart, two Iowa State University graduate students discuss water biology and water quality.

Water Biology

Water biology is the interaction between water quality and how organisms in the waterline react within swine farms. Water biology and water quality differ from each other. Water quality primarily looks at the mineral components while water biology looks at the organism's viability potential. Water biology is a key aspect of biosecurity on a farm.

Contaminated Water Lines

There are two main primary sources of contamination in water lines. The water lines can get contaminated from the water itself or once the water gets into the barn. Our water systems are currently not designed to be pressurized, therefore they can become contaminated. There are some open areas such as the water medicators, as they have an open stock bucket that may need to be cleaned. So, when we are putting medications or probiotics into the water lines, we are introducing potential nutrients or other areas that organisms could enter into that system. Pigs themselves can cause contamination. When they drink from a water nipple or go up to a wet/dry feeder, a biofilm can develop and seep back into those waterlines.

Problems and Solutions

If you find a problem with your water, it's highly recommended to work with your water disinfectant companies. You may want to grab bleach, which doesn't have extra-label use, making it technically illegal to use when pigs are in the barn. Some best practices we can use to eliminate waterline contamination are getting a clean stock bucket or using a trash can when mixing up water medications, ensuring we treat medicine like medicine, and putting lids over the stock buckets so that flies and bugs don't get into the bucket. By rinsing out your medicator, you decrease the opportunity for antimicrobials to be left in the medicator.

Evaluating Water Issues

Some common things you might recognize that indicate a water issue are plugged water nipples with mineral debris, poor water flow, or reoccurring disease outbreaks on a certain site despite your best biosecurity improvement. If you see these signs, you should take a few water samples to try and understand your water problem. You will want to take a water sample from multiple locations because your water can differ. Pigs can tolerate a wide range of water qualities, but you need to look at trace minerals, coliforms, and get a water quality analysis. Testing with a pH meter is also recommended. Water is a forgotten resource, so we must keep looking at how to create better water pathways for our pigs.

To listen to this full podcast please visit: <https://globalagnetwork.com/pigx/podcast/season-4-episode-7-water-biology-vs-water-quality>

