

# Guilty: Staph. Aureus Responsible for Cases of Subclinical Mastitis

Rhonda Brooks

**The pathogen has been flying under the radar and becoming more common on the farm**

**If you look hard enough, you can find Staphylococcus aureus (Staph. aureus) in at least one cow on every dairy**, according to Justine Britten, a Ph.D. animal scientist working at Udder Health Systems Inc.

Despite that bold statement, Britten is not implying every dairy has a mastitis problem or is gearing up for an outbreak. Rather, she is pointing out how common the pathogen is on the farm.

“One thing I’m still surprised about is, I make an assumption most producers, veterinarians and consultants know that, and they don’t,” she tells Fred Gingrich, executive director for the American Association of Bovine Practitioners, during a recent “Have You Herd” podcast.

Britten says the prevalence of Staph. aureus is increasing, based on the 7,800 bulk milk samples her company tests, on average, each year. From 2017 to 2021, it stayed relatively flat at about 20%. Today, it’s more than double that.

“We’re seeing it now at around 44% to 45% of all bulk tank samples we do are positive for Staph. aureus,” she says.

## **CONSIDER THE HEIFERS**

Britten says heifers can calve into a subclinical infection from Staph. aureus, even in a closed herd.

“Being a closed herd will help reduce the chances it’s going to happen, but it’s still possible,” she says.

In evaluating literature, Britten says between 2% and 15% of heifers are going to calve with it, and they might have a clinical episode, but cell counts in the infected heifers tend to be low which lessens detection.

“Positive heifers may stay around 100,000 or less with their cell count for quite a while before it begins to climb, and that makes it really difficult for producers to get their minds

around the fact that this animal is permanently infected with a contagious pathogen,” she says. “It also makes the disease that much more difficult to manage.”

If the dairy is not proactively screening, heifers typically recover from an episode and look fine. At that point, they are usually returned to the herd where they could infect other heifers and cows.

“My takeaway is if Staph. aureus was easier to see, more like a mycoplasma, I suspect producers would be a lot less tolerant of it,” she says.

### **SCREENING BEST PRACTICES**

Britten considers a monthly bulk tank culture as the bare minimum a dairy can do toward monitoring pathogens in the bulk tank, and she calls it an incredibly helpful tool.

“You’re really operating in a vacuum otherwise,” she says. “Even by monitoring at the bulk tank level, we’re monitoring at the 10,000-ft. view. But if [the dairy] is not doing any other culturing, it’s still better than nothing.”

Britten is a strong advocate for screening all cows and heifers.

“It works, I know that it works, but it is very important to have some kind of audit system in place so you get them all — not 50% of them, not 70% of them,” she says.

On the dairies she works with that have a very low Staph. positivity rate, they often sell the cows.

“They’re not going to tolerate them, while for others it’s too expensive to do that,” she says. “They’re going to go into a Staph. pen, or with the heifers, treat them and see if we can get them cleared up. But screening, culturing of all fresh cows and heifers is the best way to find those animals early and manage them.”

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### **Take-Home Messages**

In an episode of the “Have You Herd” podcast, Fred Gingrich and Justine Britten discuss that in outbreak situations, it is important to evaluate why cows are getting infected and remember cows often get infected in the parlor. Focus on evaluating teat condition, parlor procedures and equipment function.

Aggressive culturing programs, segregation and culling are important to minimize risk.

Britten provides three additional points:

- **#1 Not all Staph. aureus colonies exhibit beta-hemolysis**, therefore, it is important all Staph. colonies undergo coagulase testing.
- **#2 Monthly bulk tank cultures are a bare minimum monitoring program.**

- **#3 Somatic cell count is a lagging indicator, and cultures will detect infections earlier.** Britten says the difference is in management practices. Proactive monitoring, culturing and strict control measures can prevent Staph. aureus from becoming a major issue, even if the pathogen is present.