

Cow	Quarter	Result		
Aurora (171)	LH	Strep. species (heavy growth); Staph. species (minor growth)	Heavy growth	>50 colonies per mL
	LF	No growth	Moderate growth	10-50 colonies per mL
	RH	No significant growth	Minor growth	<10 colonies per mL
	RF	No growth		
		Interpretation: Aurora had a Strep. infection in her left hind quarter at time of sampling, causing mastitis	No growth	No bacteria observed. This can be a true negative result, but can also be a false negative result where any bacteria present were not able to be cultured.
			No significant growth	Minor contamination with an environmental organism; no major concern.
Applecore (14)	LH	No significant growth		
	LF	No significant growth		
	RH	No growth		
	RF	Staph. aureus (heavy growth)		
		Interpretation: Applecore had a Staph. aureus infection in her right front quarter at time of sampling, causing mastitis		
Snowflake (171)	LH	Staph. species (heavy growth)		
	LF	Staph. species (heavy growth)		
	RH	Staph. species (moderate growth)		
	RF	No significant growth		
		Interpretation: Snowflake had a Staph. species infection in her left hind, left front, and right hind quarter at time of sampling, likely causing mastitis		

Staph. aureus: *Staph. aureus* is most commonly associated with cases of subclinical mastitis. This organism is able to live in the udder without showing any physical (clinical) signs of mastitis. Cows with chronic *Staph aureus* infections may show occasional clinical flare-ups of mastitis (abnormal milk). *Staph. aureus* is contagious (can spread from cow to cow, frequently on milking units or by milkers' hands), so efforts should be made to limit contact between cows. Good milking hygiene including use of post-milking teat disinfection is effective at reducing spread of *Staph aureus*. Culture can be an important component of *Staph aureus* mastitis control. For example, in tie-stall barns *Staph aureus* cows can be milked last (i.e. 'segregated' from other cows during milking).

Strep. species: These non-ag streps include *Streptococcus uberis* and *Streptococcus dysgalactiae*, as well as many other species of streptococci and enterococci. These organisms come primarily from the environment. Major sources of these bacteria are bedding material, manure, mud and infected cows. Infections with "environmental streps" frequently occur during the dry period, especially during the first 2 weeks following dry off and during the 2-3 weeks prior to calving. These bacteria may cause subclinical mastitis with no apparent signs, or clinical mastitis with abnormal milk, swelling of the udder, and fever. Individual cow somatic cell counts are frequently elevated. Most of the infections caused by Strep species are eliminated by the cow's immune system or by antibiotic therapy if a clinical case of mastitis occurs. However, some environmental Strep. infections (18%) will become chronic and refractory or poorly responsive to treatment. Minimizing exposure to the bacteria is essential for the prevention of environmental mastitis caused by non-ag. streps. Steps to achieve this include adequate amounts of clean, dry bedding in all stalls. Well-managed inorganic bedding (sand) is associated with fewer pathogens than organic bedding (straw, shavings, sawdust, etc.).

Staph species: Coagulase-negative Staph (CNS, or Staph species other than *Staph aureus*) can be normal inhabitants of bovine skin or can be found in the environment in bedding and manure. They frequently gain access to the udder between milking and are normally not contagious. "Staph species" is one of the most common organisms cultured from dairy cows, although may often be a skin contaminant and not a cause of infection. Staph species infections are usually associated with subclinical mastitis resulting in moderate increases in somatic cell counts. If a herd is experiencing a high incidence of Staph species infections, post-milking teat dip products and their application should be re-evaluated. Staph species can be quite resistant to antibiotic therapy. However, most infections will resolve without treatment, given enough time. Persistent infections can often clear during the dry period. Staph species infections can be managed by minimizing exposure to dirty environmental conditions, and providing adequate amounts of clean, dry bedding in all stalls.