

Mastitis Culture Programs

It's been a while since we've discussed the use of blood agar cultures of mastitis cases. While some of the old uses of culture data, such as contagious mastitis control, have waned a bit over the years, there are still some great uses of mastitis culturing with real economic advantages.

There are three main reasons for performing cultures of mastitis cases.

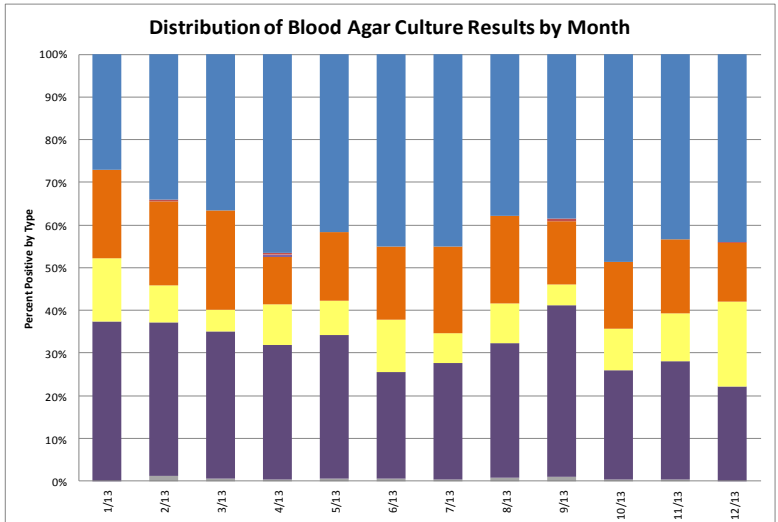
1. Selective treatment of mastitis cases based on organism.
2. Contagious mastitis identification and control programs.
3. Identifying risk factors for mastitis based on organism type.

Selective Therapy based on culture organism has been gaining popularity in the industry for a couple reasons. One reason is there continues to be additional pressure to reduce or eliminate antibiotic use in Ag animals to prevent potential bacterial resistance. The second is there is an opportunity for many producers to save money in drugs and milk discard if we treat cases selectively.

No Growth cases have no indication to be treated with antibiotics of any kind. Some bacteria like Staph aureus respond to certain drugs for extended durations better than others. Staph species typically respond to most antibiotics. Others, like Coliforms won't respond to many antibiotics well, and in some cases that option is not economically warranted. Strep species are the primary category which need antibiotic therapy. Without treatment, Strep species commonly cause increases in chronic or recurring cases because the cow never clears the bacteria on their own.

Whenever considering a selective mastitis treatment protocol, it is critical that you consult your veterinarian to discuss what kind of bacteria you see on your farm, how much mastitis does your farm experience, what evidence do you have of treatment success or failure, and what treatment options would be economically optimal for your farm.

Mastitis cultures are the cornerstone of selective therapy. Your veterinarian is a valuable resource for properly interpreting the results of cultures and associated therapies.



Data base improvements:

Ag Health Labs has continuously been investing in further development of our lab database. This investment has created several opportunities for you as an Ag Health milk client.

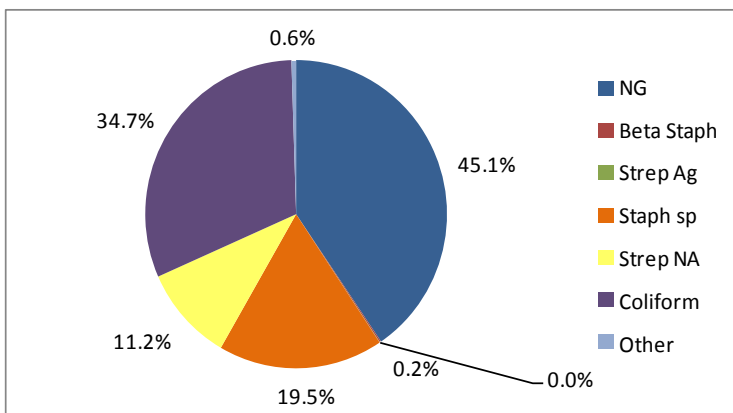
Electronic data transfer

One valuable option is we can now transfer cow data from the dairy to the lab and back completely electronically. This can save time in areas like result entry into your herd program such as DairyComp, but it is extremely valuable in properly transferring cow ID numbers. One of the major challenges for the lab is trying to interpret what has been written on the tubes. Now we can receive those cow ID's on a thumb drive and import them into our database with no possibility of error. We also have the ability to track additional cow info, such as quarter or composite sample and date sampled.

If you are interested in automatically downloading data into DairyComp please contact us.

Culture Profiles

Another wonderful benefit of storing all data in a database is the opportunity to slice and dice the data to investigate what is happening within or across farms. Those farms culturing mastitis cases received a database report, such as the one above, which identifies what organisms are being identified on their farm and how those profiles changed across time. We are asking each veterinarian to review their herds culture profiles to review what organisms they are affected by and how they might alter control or treatment programs to improve the cow welfare and financial health of the dairy. If you have any questions about the results for your dairy or how those were generated, don't hesitate to contact Ag Health Lab's staff or Dr. Fred Muller with questions.



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Contagious mastitis organisms include Staph aureus (Beta Staph), Strep agalactia, and Mycoplasma. These bacteria live in the udder and get transmitted from cow to cow via contamination of hands, towels, milking machines, or other fomites. Control of these organisms is based on culture to identify infected cows, followed by segregation or culling. On modern dairies the incidence of these organisms is low or sporadic, but some herds continue to use milk culturing to help eradicate contagious organisms from the herd.

Risk Factors for mastitis vary by organism. We commonly use the culture profile of mastitis cases to help focus attention on where mastitis risk is coming from and how do we reduce that risk?

Staph species can come from the environment, but love to live in the cracks of skin and in the streak

canal of teat ends, particularly of heifers. Proper post-milking teat dipping can dramatically impact Staph sp infections.

Strep non-ag is a group of Strep species, other than Strep ag., which come from the environment so they often are referred to as environmental Streps. They are common in mud and manure, so soiled bedding and poor teat end cleaning pre-milking are your key areas to focus on when Strep species are high. Remember when talking mastitis; Strep species equals Feces!

Some dairies have culture results with a large proportion of **Coliform** bacteria. Typically greater than 35% is considered a higher than average Coliform rate. While Coliform bacteria can come from a variety of environmental sources such as mud, manure, or water, we commonly see high Coliform rates when a lot of water is used in parlors resulting in

cows or machines being wet while attached. Look for water use that could be eliminated in the parlor.

No Growth results are a bit of an unknown, but those cases were previously infected with bacteria and by the time they are found with mastitis, sampled, and cultured, the bacteria have died or been eliminated by the cow's immune system. It is believed the most common bacteria responsible for NG's are Coliforms as these bacteria are frequently self limiting and are killed prior to the mastitis inflammation being identified. Coliform bacteria release endotoxins when they die and the endotoxins are responsible for the inflammation we see as mastitis, but the bacteria is dead. Therefore, control is similar to Coliforms and you may want to work on finding mastitis cows quicker to identify the organism and potentially improve treatment response.

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