CERTIFIED MILK INSPECTOR NEWSLETTER

September 2015 Issue 119

NEW YORK STATE
DEPARTMENT OF AGRICULTURE & MARKETS
DIVISION OF MILK CONTROL & DAIRY SERVICES
10 B AIRLINE DRIVE
ALBANY, NEW YORK 12235

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Editor's Note:

The 2015 Certified Milk Inspector Updates will be held on the following dates at the locations and times indicated below. Annual attendance of the Update or an approved alternative course is mandatory for maintaining CMI certification. Speakers this year will be Chris Hylkema and Kennedy Wilson, NYS Dept. of Agriculture and Markets, and Steve Murphy, Cornell Cooperative Extension.

September 28, 2015 – Monday – 1:00pm to 4:00pm
Cornell Cooperative Extension (2nd floor meeting room)
21 South Grove St., East Aurora, NY 14052

September 29, 2015 – Tuesday – 9:00am to 12:00pm
NYS Fairgrounds – Art & Home Center (Martha Eddy Room)
581 State Fair Blvd., Syracuse, NY 13209

September 30, 2015 – Wednesday – 9:00am to 12:00pm
St. Lawrence – Lewis BOCES Building (Conference Room A)
40 West Main St., Canton NY 13617
(Rt.68 before SUNY Canton entrance if headed toward Ogdensburg)

October 1, 2015 – Thursday – 9:00am to 12:00pm
NYS Dept. of Agriculture & Markets
10 B Airline Drive, Albany, NY 12235
Directions: Take I-87 to Exit 4 to Albany Shaker Rd, go West to the 3rd light, (just past Airport). Take left onto Rte 155, take left at Airline Drive (10B is ¼ mile on left).

A Message From the NY Animal Well-Being Workgroup & Meeting Invitation

New York has been a leader across the country in the area of animal well-being. Our NYSCHAP Program is one example of the commitment NY has had to bringing additional help to farms to improve SOP's through their animal health modules. Recently, many of our milk cooperatives have adopted the National Dairy FARM Program to assure consumers that animal well-being is a priority on their farms. In February 2015, the NY Animal Well-Being Workgroup was formed by industry partners to help support this effort. The workgroup is comprised of a variety of industry representatives whose purpose is to provide industry support at all levels for this initiative. Some of the needs that have been identified to date include: 1) developing a comprehensive list of resources made available to farms, field staff, and veterinarians, 2) developing united messaging, inside the dairy industry and externally, 3) connecting consumers to what farmers are actually doing 4) providing processors with standard messaging for retailers, 5) recognizing of FARM program by retailers and manufacturers, 6) being proactive about animal well-being. In order to achieve these goals, it will take teamwork and an industry-wide effort.

We would invite all milk inspectors and meeting attendees to join us after the CMI Update meeting (East Aurora will be one hour prior to the meeting) to hear a short presentation from the NY Animal Well-Being Workgroup about these efforts but more importantly to engage with us in conversation about the needs and opportunities that you see. We will provide a light lunch. Please RSVP to tonya@nedpa.org or 315-283-8932 by Friday, September 25 to allow us to plan for lunch. Lunch will be provided by NEDPA.

High Pressure Pumps Used on Farms

High pressure pumps can be an effective means of washing down milking parlor walls and floors, farm equipment, etc. However if either permanently installed or portable high pressure pumps are used, the water supply must be protected from potential sources of contamination. This can be accomplished by wiring the pump through a low pressure cutoff switch or by providing a separate water supply for the pump which is not connected to the potable supply. If the high pressure pump is wired through a low pressure cutoff switch then the switch must be located on the suction side of the pump and a shut off valve must be installed on the water supply line upstream from the switch but reasonably close to the pump for purposes of testing the function of the switch. When the shut off valve is closed, the switch must shut off the pump.

Air Blow Assemblies

Compressed air systems used for product contact, such as pipeline air blow assemblies, must be installed per 3-A Sanitary Standards and utilize disposable point of use filter media. They must be installed to allow for easy disassembly for maintenance and inspection. Don't forget to follow up on your farms which use air blow assemblies to make sure the filters are stored in a manner which ensures they will remain clean and dry until used.

Pre-Coolers, Chillers, and Plate Heat Exchangers

Remember that pre-coolers of all types need to drain completely and automatic drains shall be provided where needed. Multiple pass coolers shall be designed to allow drainage from all the passes that can trap water. There shall be no bypass lines installed between the milk inlet and outlet lines of a pre-cooler in an effort to increase the cleaning solution flow rate. Pumps and heat exchangers must be sized correctly to allow the proper flow of cleaning solutions through the heat exchanger to provide for proper cleaning. If you have questions or doubts as to what type of cooling systems are being installed (or have been installed) on your farms, contact the installers. Reputable installers will be more than happy to provide the information you need to fully understand the equipment. Keep in mind that on chillers which normally utilize a freezing point depressant such as glycol, a letter from the manufacturer must be available on the farm which states that the substance is food grade or GRAS (generally recognized as safe).

Phyto-Mast

A product labeled *Phyto-Mast*, which claims to be a mastitis treatment, is being advertised in organic dairy magazines and has been found on dairy farms in NY. Its active ingredient is thyme oil and it is sold in intramammary infusion tubes. Please be aware that this is an unapproved drug and its use as intended is a violation of the PMO's Appendix N. As such, if this product is observed in use or in drug storage cabinets during inspections it should be debited under item *15r*. Currently there is a cease and desist order in NY to prevent its distribution within the state and we have made FDA's Center for Veterinary Medicine aware of the issue but there is a possibility that phyto-mast is still available. If you see this drug, send me an email stating where and when you saw it.

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Sample Vial Storage

The samples taken for component testing, bacteria, somatic cells, drug residues, etc. from the farms you inspect are extremely important. They determine the price paid for the farm's milk and any regulatory actions, such as penalties, which the farm may incur. An important factor in the sampling process is ensuring that sample vials are stored to help protect their sterility. Vial stock supplies must be stored in closed plastic bags in clean and dry boxes. When transporting a quantity of sample vials for use, they must be kept in a clean, covered bag or container. As a CMI, one of NY's farm regulatory personnel, if you see sample vials being stored or handled improperly by farm milk receivers make sure to discuss it with the milk receiver and hauling company. Offer solutions which better serves your farmers and of course always set a good example by properly handling sample vials yourself.

The following pages contain an article written by Jessica Scillieri Smith DVM on the prevalence and impact of Lactococcus and Streptococcus bacteria in dairy herds

Lactococcus and "other *Streptococcus* species" mastitis

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Environmental organisms cause the majority of clinical mastitis in herds with low somatic cell count, including 25.4% of which are environmental *Streptococci*, specifically *Streptococcus* species other than *Streptococcus agalactiae* (Hogan et al., 1989). These gram-positive, catalase-negative, non-β hemolytic cocci result in clinical mastitis in 45% of intramammary infections (Todhunter et al., 1995). Identification of *Streptococcus agalactiae* and *Strep dysgalactiae* using standard microbiological methods is very accurate when compared to DNA sequencing (Wyder, 2011). However, the remaining gram-positive, catalase negative cocci include species in the genera *Lactococcus*¸ *Enterococcus*, and *Aerococcus*, but cannot be easily or economically differentiated using biochemical tests (Fortin et al., 2003). Recently, 5 farms (3 in New York and 2 in Minnesota) with high levels of chronic, subclinical mastitis previously identified as "*Streptococcus* species" were accurately identified as *Lactococcus lactis* ssp. *Lactis* (Werner et al., 2014) using molecular techniques.

While *Lactococcus* appears to be a potential significant contributor to chronic mastitis on a few farms, the prevalence of these infections is not well understood and little is known about the characteristics of this type of infection and response to therapy. In 2014, QMPS Canton was awarded a grant through the Northern NY Agriculture Development program to investigate mastitis caused non-*agalactiae Streptococcus* species. All samples in this category that were processed by QMPS Canton and Countryside Veterinary Clinic in Lowville, NY were sent to QMPS Ithaca for speciation using molecular technology (MALDI-TOF). It was found that in the 480 samples that were in identified in this category (out of 8,361 samples processed), 155 were *Streptococcus dysgalactiae*, 150 were *Streptococcus uberis*, 112 were *Lactococcus lactis* and 22 were *Enterococcus saccharolyticus*. The remaining 81 isolates belonged to various species in the *Streptococcus, Enterococcus, Aerococcus* and *Lactococcus* genera.

Table 1: MALDI-TOF identification of isolates of Gram-positive, catalase-negative, non-β hemolytic cocci.

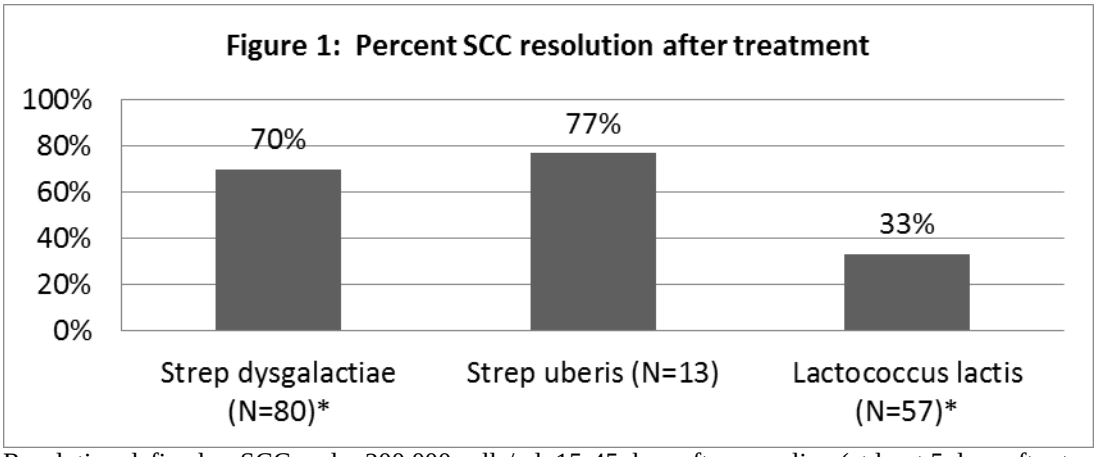
Organism	#Farms	#Cases
Strep dysgalactiae	**35**	**155**
Strep uberis	**76**	**150**
Lactococcus lactis	**19**	**112**
Lactococcus garvieae	**11**	**16**
Other *Streptococcus* species	8	10
Enterococcus saccharolyticus	**13**	**22**
Other Enterococcus species	6	6
Aerococcus viridans	2	2
Unspeciated Strep	5	7
Total		**480**

This non-randomized observational study included samples from 143 farms. Six farms in the region had over 20 samples included in the data set (identified as *Strep* mastitis on culture), which showed an interesting trend. Out of the predominant organisms (*S. dysgalactiae, S. uberis, L. lactis* and *E. saccharolyticus*), each farm had one organism which contributed at least 50% of the samples in this category. For these six farms, the predominant organism was either *S. dysgalactiae* or *L. lactis*.

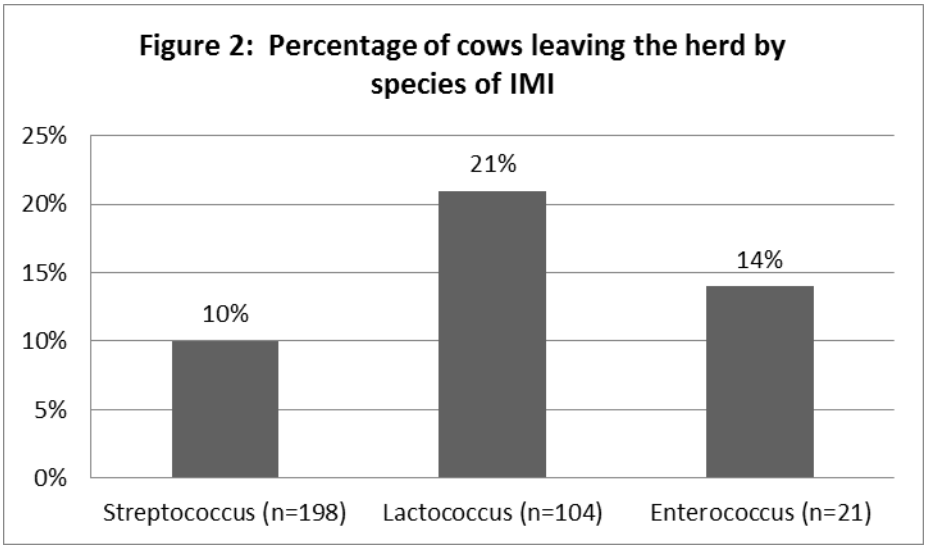
Farm	***Strep dysgalactiae***	***Strep uberis***	***Lactococcus lactis***	***Lactococcus garvieae***	***Enterococcus saccharolyticus***
A	19%	9%	58%	4%	9%
B	86%	8%	0%	0%	0%
C	25%	4%	64%	4%	0%

D	59%	4%	33%	0%	4%
E	27%	5%	55%	5%	9%
F	50%	20%	0%	10%	10%

All cows from herds with DHIA records were followed for the next two test days in order to track SCC and track treatment if records were available. It was found that for cows treated by the farm (with any product/duration), those with *L. lactis* were less likely to have a SCC < 200,000 cells/ml by 45 days after treatment (33%) than those with *S. dysgalactiae* (70%). In addition, those with *Lactococcus* were more likely to leave the herd regardless of reason (21%) than those with infections with *Streptococcus* organisms (10%).



Resolution defined as SCC under 200,000 cells/ml, 15-45 days after sampling (at least 5 days after treatment), regardless of treatment product used or duration. Does not take additional mastitis events into account. *$p<0.001$



Evaluated at second test day after sampling, only includes cows from farms with DHIA testing. n=323 cows. *$p<0.01$