

Chronic mastitis: Use all tools for a healthier herd

By Jack van Almelo and Linda Tikofsky

Chronic mastitis: It's a headache for every dairy. However, you have four tools to manage chronic mastitis infections:

- Individual cow Somatic Cell Counts (SCC)
- Milk culture results
- Culling
- Pharmaceuticals.

These tools aren't new, but methods for integrating information about your herd's mastitis status are giving you and your veterinarian more effective approaches to keeping your herd healthy.

First, determine if chronic infections are a problem in your herd. Top Northeast herds consistently have fewer than 6% of their cows carrying chronic mastitis infections. If more than 8% of your herd are chronically infected, you may benefit from an integrated response to chronic animals. (Figure 1)

You need individual-cow SCC to identify chronically infected animals. If a cow's SCC is greater

Figure 1. Action triggers for mastitis cases

	New	Chronic	Fresh
Top	≤5%	≤5%	≤10%
OK	~8%	~8%	~15%
Not OK	10+%	10+%	20+%

than 200,000, or Linear Score (LS) greater than 3.9, for two months in a row or two out of the last three months, she is chronically infected.

You can determine the percent of your herd chronically infected by using your DHI SCC summary report high SCC list and counting animals with a high count last month. Or calculate it with Dairy Comp.

If more than 8% of your herd is chronically infected, create a list of the animals to submit milk samples for culturing. Identify animals for this list from Dairy One SCC lists or your dairy software.

The High Linear Score report (DHI-241) makes it easy to select chronically infected animals. You can also prioritize animals to begin culturing based on their contributions to your bulk tank.

To cull or to culture

It's easy to decide whether to cull some chroni-

cally infected animals. Just look at their reproductive status, production records and the presence of other health problems.

When it comes to culturing, the flow chart (Figure 2) can help you choose the best candidates. Once you prioritize the animals to culture, follow these steps:

- Take milk samples in small sterile vials following the correct procedure.
- If you're new to taking milk culture samples, contact Quality Milk Production Services (QMPS), your Dairy One technician or your veterinarian for directions on the best procedure.
- Freeze samples you can't culture immediately.
- Send samples with your Dairy One technician to its laboratory, to QMPS or to your veterinary clinic if it's using the "Culture Tracker" system.

The Culture Tracker involves software that will track each animal's culture results and then put them into your herd's Scout, Dairy Comp 305 or Dairy One Technician's Dairy Comp records via the Internet.

Once culture results are integrated with your cows' Scout or Dairy Comp 305 records, you can easily look up an individual animal, summarize how mastitis in your herd is changing and make the information available to your advisers.

There are several advantages to having an animal's production, reproduction and SCC history integrated with milk culture results. You can:

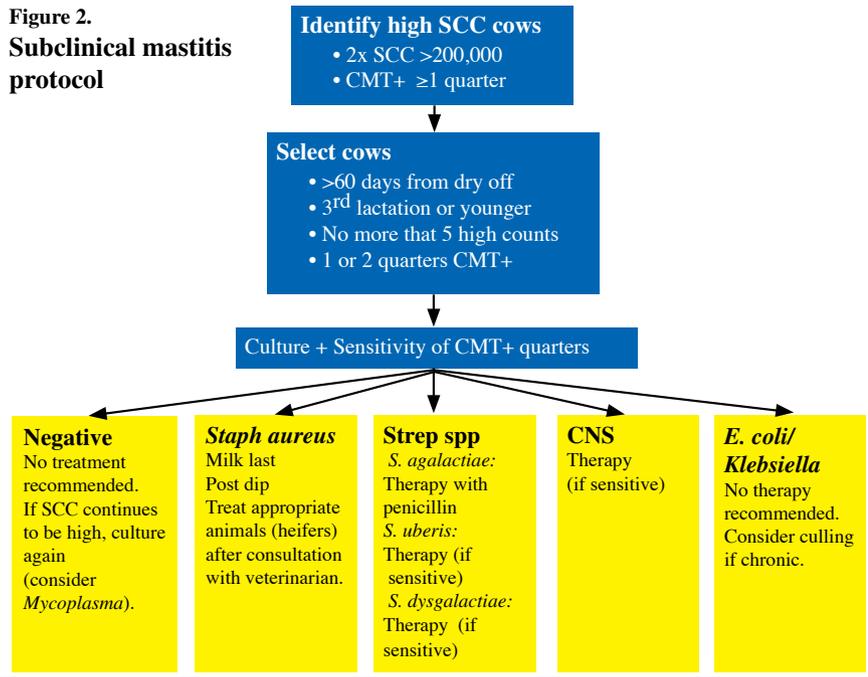
- Better make decisions for chronic cows.
- Devise treatment protocols for specific infections and implement them.

This will improve cure rates, decrease expenses by not treating animals unlikely to respond, and reduce the risk of having milk or meat residues by incorporating withhold dates directly into the cow card.

The flow chart summarizes the process for detecting chronic subclinical cows and treatment options. For animals more than 200 days in milk (DIM) and pregnant, early dry-off with the appropriate antibiotic is a good option to consider.

Mastitis is a headache for every dairy. However, by using all the tools available, you can construct logical and effective protocols to diagnose and resolve high bulk milk SCC.

Figure 2.
Subclinical mastitis protocol



Cow 243

Cow 243 had a clinical mastitis episode on 1/12. (Figure 3) The culture revealed Strep species in the left front quarter. The dairy sent the sample to the culture lab, and preliminary results were automatically downloaded into its PC the next day. Final results were downloaded in two days.

The dairy's manager decided to begin a treatment regime for 243 that set the Milk Withholding Date (MKDAT) to 1/18 and the Beef Likely OK (BFDAT) date to 1/22. Active protocol is in red in Figure 3, and the BFDAT and MKDAT are colored because they're still in effect.

Cow 243 is 321 days in milk (DIM) and bred just six days. On the plus side, 243 didn't go through a dry period with this infection.

Cow 243's Test Day Page reveals a chronic problem beginning on 6.21.05. (Figure 4) Surprisingly, she had only one clinical case since that date. Data show that if Strep infections are detected and treated early, the likelihood of a cure increases.

Beginning in late June, the dairy began culturing all animals at freshening, with many animals cultured on one day in July. The majority of cultures of fresh animals yield Staph species but beginning in late November, an "outbreak" of Strep species in mid-lactation cows occurs.

Figure 3. Cow 243 Cowcard on 1/17/06

Figure 4. Cow 243 Test-Day Page

TestDate	DIM	MILK	PCTF	PCTP	FCM	305ME	RELV	SCC	LS	PEN	MUN
3/27/05	15	77	3.6	2.9	78	25900	84	76	2.6	3	13
4/29/05	48	85	3.7	2.6	87	28880	94	44	1.8	6	13
5/27/05	76	92	3.7	2.8	94	30880	100	115	3.2	6	16
6/21/05	111	111	2.9	2.9	101	36380	118	303	4.3	6	10
7/28/05	138	98	3.6	3.2	99	35770	116	283	4.4	6	10
8/15/05	166	95	3.1	3.3	89	36340	118	230	4.2	6	12
9/19/05	201	79	3.3	3.6	77	35580	115	492	5.3	6	12
10/17/05	229	84	3.4	3.6	83	37030	120	1393	6.8	8	13
11/21/05	264	81	3.9	3.6	86	37470	122	2786	7.8	8	8
12/19/05	292	72	4.3	3.6	81	37320	121	1393	6.8	8	10
1/16/06	320	73	3.4	3.4	72	37350	121	2986	7.9	9	11

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QMPS is a program within the Animal Health Diagnostic Center, a partnership between the New York State Department of Agriculture and Markets and the College of Veterinary Medicine at Cornell.

The QMPS staff of veterinarians, technicians and researchers works with New York dairies to improve milk quality by addressing high somatic cell counts, milking equipment and procedures, and milker training in English and Spanish. QMPS also conducts research and teaching programs.

Reach the four regional QMPS laboratories at:

- Central Lab, Ithaca.
877-MILKLAB (877-645-5522)
- Eastern Lab, Cobleskill.
877-645-5524
- Northern Lab, Canton.
877-645-5523
- Western Lab, Geneseo.
877-645-5525

QMPS website:

<http://qmps.vet.cornell.edu>

Dairy One is an information technology cooperative, providing DHI records services and herd management software to dairies throughout the Northeast and Mid-Atlantic region. A comprehensive laboratory network provides milk quality testing as well as forage, soil, manure and water testing.

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See the next QM² in April's *Northeast DairyBusiness*.