

**Research Communication: Dairy producers in the Southeast United States are concerned with cow care and welfare**

Amanda Lee<sup>1</sup>, Susan Schexnayder<sup>2</sup>, Liesel Schneider<sup>1</sup>, Stephen Oliver<sup>1</sup>, Gina Pighetti<sup>1</sup>, Christina Petersson-Wolfe<sup>3</sup>, Jeffrey Bewley<sup>4</sup>, Stephanie Ward<sup>5</sup>, and Peter Krawczel<sup>1\*</sup>

<sup>1</sup> Department of Animal Science and

<sup>2</sup> Department of Forestry, Wildlife, and Fisheries, University of Tennessee, Knoxville, 37996

<sup>3</sup> Department of Dairy Science, Virginia Tech University, Blacksburg, 24601

<sup>4</sup> Alltech Inc., Nicholasville, KY, 40356

<sup>5</sup> Department of Animal Science, North Carolina State University, Raleigh, 27695

**Short Title: Producers' Concerns About Cow Care**

\* Corresponding Author: Peter Krawczel  
Associate Professor Animal Health and Well-

Being Department of Animal Science

2506 River Dr. Knoxville, TN, 37996

Phone: 865-974-8941

Fax: 865-974-7927

Email: [krawczel@utk.edu](mailto:krawczel@utk.edu)

Supplementary File

Supplementary Figure S1: Survey distributed to dairy producers in Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia in 2013 and 2014



*A Survey of Mastitis Management on Dairy Farms in the Southeast*



[www.sequalitymilk.com](http://www.sequalitymilk.com)

# YOUR DAIRY OPERATION

1. Are you operating a working dairy farm?

Yes,  
Please continue

No,  
Year of last operation \_\_\_\_\_  
Please continue, and report information from  
the last year of your dairy operation.

2. Which of these best describes your dairy business? (check one)

Sole proprietorship

Partnership

Corporation

Other \_\_\_\_\_

3. What year did you begin to work on any part of this dairy farm? \_\_\_\_\_

4. How many people (employees & non-paid family) milk cows on your dairy? \_\_\_\_\_

5. How many cows are typically on your farm? \_\_\_\_\_

\_\_\_\_\_ # lactating \_\_\_\_\_ # dry

6. How has the total number of cows changed in the last 12 months? (check one)

Increased by \_\_\_ cows

Decreased by \_\_\_ cows

No change

7. Are heifers raised on your farm?

Yes

No

8. What is your current average milk production per day? \_\_\_\_\_ lbs.

9. What was your total milk per cow last year (rolling herd average)? \_\_\_\_\_ lbs.

10. What is your bulk tank somatic cell count (monthly average SCC): (answer all)

Currently \_\_\_\_\_

One year ago \_\_\_\_\_

Three years ago \_\_\_\_\_

11. Does the co-op or processor you sell your milk to offer an incentive for achieving a particular bulk tank SCC? (check one)

Yes, and the incentive is \_\_\_\_\_

No price incentive

12. Does the co-op or processor you sell your milk to impose a price penalty for exceeding a particular bulk tank SCC? (check one)

Yes, and the penalty is \_\_\_\_\_

No price penalty

13. To which co-op do you belong or to which processor(s) do you sell milk? (identify all) \_\_\_\_\_

14. Do you participate in Dairy Herd Improvement Association (DHIA) testing?

Yes

No

15. Do you routinely use an electronic record keeping system, such as PC-DART or DairyComp-305, for:

tracking clinical mastitis events?

Yes

No

tracking mastitis treatment?

Yes

No

16. Do you have farm operations not related to your dairy? (Feed production and value added dairy products are considered part of your dairy operation)

Yes

No

# SCC, MASTITIS, AND YOU

17. Please indicate what levels of SCC and clinical mastitis best match your thoughts and actions.

What is the lowest level of bulk tank SCC that causes you concern?	What is the lowest level of bulk tank SCC that causes you to take action?	What is your goal for cases of clinical mastitis in your herd (as a % of all cows)?	What is the lowest incidence of clinical mastitis cows in your herd that would cause you to change how you address mastitis?
<input type="checkbox"/> 100,000 cells/ml	<input type="checkbox"/> 100,000 cells/ml	<input type="checkbox"/> 5%	<input type="checkbox"/> 5%
<input type="checkbox"/> 200,000 cells/ml	<input type="checkbox"/> 200,000 cells/ml	<input type="checkbox"/> 10%	<input type="checkbox"/> 10%
<input type="checkbox"/> 300,000 cells/ml	<input type="checkbox"/> 300,000 cells/ml	<input type="checkbox"/> 15%	<input type="checkbox"/> 15%
<input type="checkbox"/> 400,000 cells/ml	<input type="checkbox"/> 400,000 cells/ml	<input type="checkbox"/> 20%	<input type="checkbox"/> 20%
<input type="checkbox"/> 500,000 cells/ml	<input type="checkbox"/> 500,000 cells/ml	<input type="checkbox"/> 25%	<input type="checkbox"/> 25%
<input type="checkbox"/> 600,000 cells/ml	<input type="checkbox"/> 600,000 cells/ml	<input type="checkbox"/> 30%	<input type="checkbox"/> 30%
<input type="checkbox"/> >600,000 cells/ml	<input type="checkbox"/> >600,000 cells/ml	<input type="checkbox"/> 40%	<input type="checkbox"/> 40%
<input type="checkbox"/> other <input type="text"/>	<input type="checkbox"/> other <input type="text"/>	<input type="checkbox"/> other <input type="text"/>	<input type="checkbox"/> other <input type="text"/>

## EFFECTS OF MASTITIS

18. Please indicate the extent to which you disagree or agree with each of the following statements about troublesome things about mastitis. (Mark one "X" for each row.)

A troublesome thing about mastitis is...	STRONGLY DISAGREE	DISAGREE	NEITHER	AGREE	STRONGLY AGREE
Uncertainty about my cows' recovery.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The extra labor needed to manage mastitis.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
That cows suffer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The financial consequences.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The worries it causes me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## MOTIVATIONS

19. Please indicate how important each of these is as a motivation for work on your dairy, including actions to manage mastitis. (Mark one "X" for each row.)

	VERY UNIMPORTANT	UNIMPORTANT	NEITHER	IMPORTANT	VERY IMPORTANT
Reducing antibiotic usage for mastitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reducing antibiotic residues in milk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improving milk quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Receiving financial incentives for milk quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoiding financial penalties for poor milk quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increasing milk production	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

# PERCEPTIONS OF MASTITIS AND MASTITIS MANAGEMENT

20. Please indicate the extent to which you disagree or agree with each of these statements.

(Mark one "X" for each row.)

	STRONGLY DISAGREE	DISAGREE	NEITHER	AGREE	STRONGLY AGREE
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Mastitis is a significant concern to the dairy industry in the Southeast.

Mastitis is a significant concern of mine relative to other issues affecting my dairy.

Mastitis causes are difficult to manage.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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The weather and climate play an important role in mastitis outbreaks.

Bad luck plays an important role in mastitis outbreaks.

My dairy barn and equipment play an important role in mastitis outbreaks.

My milking practices play an important role in mastitis outbreaks.

Mastitis is currently under control at my dairy.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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My dairy has had a serious mastitis problem one or more times.

It is extremely important to me to reduce the number of clinical mastitis cases on my dairy.

It is extremely important to me to decrease my bulk tank SCC.

I know what procedures to use in the parlor to decrease my bulk tank SCC or maintain my already low SCC.

I can afford to do what is necessary to decrease my bulk tank SCC or maintain my already low SCC.

Milk quality premiums available to me are adequate to cover the costs I incur in producing quality milk.

Mastitis seems to persist despite my efforts to control it.

The spread of mastitis from one cow to others in the herd is difficult to control.

There is uncertainty and conflicting information about controls and treatment of mastitis.

Mastitis is a disease of lactating and dry cows and not a problem in bred heifers.

# EXPERIENCES WITH SCC & MASTITIS CONTROL

21. Please indicate what experience you've had with each of these practices. First, indicate whether you're currently using it, never tried it, or tried and discontinued it. Then, evaluate each practice first based on your perception of its *effectiveness* and then for its *practicality/cost*.

Practices:	Use this approach?	Effectiveness					Practicality / cost				
		Not at all effective		Very effective			Not at all practical/economical			Very practical/economical	
Having and implementing a mastitis management plan	<input type="checkbox"/> Use it now <input type="checkbox"/> Never used it <input type="checkbox"/> Tried it, but stopped	1	2	3	4	5	1	2	3	4	5
Training employees in milking procedures to reduce bulk tank SCC	<input type="checkbox"/> Use it now <input type="checkbox"/> Never used it <input type="checkbox"/> Tried it, but stopped	1	2	3	4	5	1	2	3	4	5
Delegating responsibility to employees for mastitis treatment (including antibiotic use)	<input type="checkbox"/> Use it now <input type="checkbox"/> Never used it <input type="checkbox"/> Tried it, but stopped	1	2	3	4	5	1	2	3	4	5
Evaluating employees based on performance with mastitis and bulk SCC control measures	<input type="checkbox"/> Use it now <input type="checkbox"/> Never used it <input type="checkbox"/> Tried it, but stopped	1	2	3	4	5	1	2	3	4	5
Culling based on SCC information or other mastitis indicator	<input type="checkbox"/> Use it now <input type="checkbox"/> Never used it <input type="checkbox"/> Tried it, but stopped	1	2	3	4	5	1	2	3	4	5
Milking mastitis and treated cows in separate groups	<input type="checkbox"/> Use it now <input type="checkbox"/> Never used it <input type="checkbox"/> Tried it, but stopped	1	2	3	4	5	1	2	3	4	5
Analyzing and then acting on bacterial culturing of milk samples	<input type="checkbox"/> Use it now <input type="checkbox"/> Never used it <input type="checkbox"/> Tried it, but stopped	1	2	3	4	5	1	2	3	4	5
Using hygienic supplies (gloves and fresh towels for each cow) for milking	<input type="checkbox"/> Use it now <input type="checkbox"/> Never used it <input type="checkbox"/> Tried it, but stopped	1	2	3	4	5	1	2	3	4	5
Disinfecting teats of all cows before milking (pre-dipping)	<input type="checkbox"/> Use it now <input type="checkbox"/> Never used it <input type="checkbox"/> Tried it, but stopped	1	2	3	4	5	1	2	3	4	5
Disinfecting teats of all cows after milking (post-dipping)	<input type="checkbox"/> Use it now <input type="checkbox"/> Never used it <input type="checkbox"/> Tried it, but stopped	1	2	3	4	5	1	2	3	4	5
Using vaccines to control coliform mastitis (e.g., J5)	<input type="checkbox"/> Use it now <input type="checkbox"/> Never used it <input type="checkbox"/> Tried it, but stopped	1	2	3	4	5	1	2	3	4	5
Routinely using antibiotic therapy to treat clinical mastitis cases	<input type="checkbox"/> Use it now <input type="checkbox"/> Never used it <input type="checkbox"/> Tried it, but stopped	1	2	3	4	5	1	2	3	4	5
Routinely using antibiotic therapy and/or teat sealant for dry cows	<input type="checkbox"/> Use it now <input type="checkbox"/> Never used it <input type="checkbox"/> Tried it, but stopped	1	2	3	4	5	1	2	3	4	5
Using biosecurity practices, such as pre-testing or quarantine, for replacement heifers and cows	<input type="checkbox"/> Use it now <input type="checkbox"/> Never used it <input type="checkbox"/> Tried it, but stopped	1	2	3	4	5	1	2	3	4	5

# SOURCES OF INFORMATION ABOUT MASTITIS

22. Please tell us whether you've used these sources of information about mastitis management. Then rate each source twice: first according to your opinion about its reliability and second based on how easy you think the information is to understand and act upon. Please rate each source, whether or not you've used it.

Information source:	Have you sought information from this source?		Is it reliable?					Is it easy to understand and act upon?				
	Yes	No	Not at all reliable		Very reliable			Not at all easy to act upon			Very easy to act upon	
Veterinarian	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5	1	2	3	4	5
Another dairy producer	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5	1	2	3	4	5
Milk cooperative representative	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5	1	2	3	4	5
County agent or other Extension representative	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5	1	2	3	4	5
Farm journals	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5	1	2	3	4	5
Drug company representatives	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5	1	2	3	4	5
Information products from Extension online	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5	1	2	3	4	5
Other online information sources (please identify): _____	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5	1	2	3	4	5
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5	1	2	3	4	5

# YOUR GOALS

23. Please indicate how important each of these BROAD GOALS is for you and your dairy operation.

(Mark one X for each row.)

	VERY UNIMPORTANT	UNIMPORTANT	NEITHER	IMPORTANT	VERY IMPORTANT
Taking good care of my cows and heifers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Making my farm better each day	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Continuing farming as a way of life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Making choices my family is proud of	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increasing net on-farm income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trying out new practices and technology to better my operation and the industry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improving dairy products' image	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

# ABOUT YOU

24. In what state and zip code is your farm located?

State

Zip Code

25. How old are you?

26. What is your position on the farm? (check all that apply)

Owner  
(solely or jointly)

Manager

Non-family business  
partner

Other

27. How often are you in the parlor and OBSERVING milking?

Never

less than once a month

about once a month

about once a week

about once a day

almost every milking

28. How often are you in the parlor and DOING the milking?

Never

less than once a month

about once a month

about once a week

about once a day

almost every milking

29. How likely is each of these scenarios? (check one box for each row)

NOT LIKELY AT  
ALL

SOMEWHAT  
LIKELY

VERY  
LIKELY

ALMOST  
CERTAINLY

You or a close family member will be operating your farm 5 years from now?

You or a close family member will be operating your farm 10 years from now?

Your farming operation will include dairy 5 years from now?

Your farming operation will include dairy 10 years from now?

30. Do your employees primarily speak the same language(s) as you?

Yes

No

31. Do your operation's owner and lead herdsman speak the same language(s) as each other?

Yes

No

32. What is the highest level of education you've reached?

less than a high  
school degree

high school degree

some college or  
technical education

college degree

33. Approximately what percentage of your total 2012 household income was from off farm employment?

None

1 – 25%

26% – 50%

51 – 75%

76 – 100%

34. What veterinarian do you use?

Name:

City

State



35. If you have any additional comments, please record them here.

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## We are very grateful for your input!

Please return the completed survey in the enclosed postage-paid envelope. If you have no envelope, please return the survey to:

UT Human Dimensions Research Lab  
274 Ellington Plant Sciences Building  
Knoxville, TN 37996-4563

Thank you for participating in this study conducted by the Southeast Quality Milk Initiative. If you are interested in the results of this survey, please check the following website, [www.SEqualityMilk.com](http://www.SEqualityMilk.com), in the coming months to view them.

Please contact one of the survey coordinators with any questions or comments about this survey.

University of Tennessee  
Institute of Agriculture  
Human Dimensions Research Lab  
Susan Schexnayder  
*[schexnayder@utk.edu](mailto:schexnayder@utk.edu), 865.974.5495*  
Mark Fly  
*[markfly@utk.edu](mailto:markfly@utk.edu), 865.974.7979*

University of Kentucky  
College of Agriculture, Food and Environment  
Community and Leadership Development  
Lori Garkovich  
*[lgarkov@uky.edu](mailto:lgarkov@uky.edu), 859.257.7581*

The many participating universities welcome additional comments from you about mastitis and mastitis management. The participating universities and persons involved are:

Mississippi State University  
Stephanie Hill-Ward, *[srhill@ads.msstate.edu](mailto:srhill@ads.msstate.edu)*

University of Florida  
Albert De Vries, *[devries@ufl.edu](mailto:devries@ufl.edu)*

University of Georgia  
Stephen Nickerson, *[scn@uga.edu](mailto:scn@uga.edu)*

University of Kentucky  
Jeffrey Bewley, *[jeffrey.bewley@uky.edu](mailto:jeffrey.bewley@uky.edu)*  
Michelle Arnold, *[michelle.arnold@uky.edu](mailto:michelle.arnold@uky.edu)*  
Donna Amaral-Phillips, *[donna.amaral-phillips@uky.edu](mailto:donna.amaral-phillips@uky.edu)*

University of Tennessee  
Stephen Oliver, *[soliver@utk.edu](mailto:soliver@utk.edu)*  
Raul Almeida, *[ralmeida@utk.edu](mailto:ralmeida@utk.edu)*  
Gina Pighetti, *[pighetti@utk.edu](mailto:pighetti@utk.edu)*  
Peter Krawczel, *[pkrawcze@utk.edu](mailto:pkrawcze@utk.edu)*

Virginia Tech University  
Christina Petersson-Wolfe, *[milk@vt.edu](mailto:milk@vt.edu)*

Please retain the historic photo and the letter of invitation, which includes the address of the SQMI website and the contact information of all participating universities.