

LOUISIANA MASTITIS CONTROL PROGRAM

Buck Green
Specialist (Dairying)
Louisiana Cooperative Extension Service

At the beginning, I should point out that we certainly do not have all the answers on mastitis control in Louisiana. We do feel that we have a sound and workable program and progress has been made in the area of mastitis control. We believe this because the plant personnel tell us they are getting a cleaner and better quality raw product. Many dairymen have told us that for the first time they have a systematic way of working at mastitis control. They say the program is working for them and it's putting more money in their pocket.

Perhaps I should tell you something of the dairy industry in Louisiana so you can compare it with your own. We have 2,022 dairy farms in the state of Louisiana with a milking cow population - 2 years and older - of approximately 150,000. About 400 Mississippi producers are also shipping into the state. Our average size dairy farm has about 72 milking cows which is considerably smaller than the average size farm in Florida. We do have several herds with 200 cows and some with up to 500, but most of them are smaller than this. Our investment per cow in the milking herd runs between \$1,600 and \$1,800. Last year, Louisiana dairymen sold slightly over one billion pounds of milk.

More than half the dairies in the state are located in six or seven parishes or counties in the southeastern part of the state known as the Florida Parishes. These are relatively small farms, located on hilly cut over pine land. Another major dairy area is located in the southwest part of the state which is primarily a cane and rice growing area. Land prices are extremely high in this area and most of the dairymen are concentrating large numbers of animals on limited acreage. The land in this area is very low and swampy. Consequently, mud is a real problem there.

Our larger dairy herds are found in the northern part of the state bordering on the Mississippi Delta area. Many of these dairies have dry-lot free-stall housing operations.

The Extension dairy staff, realizing the economic importance of mastitis as a herd health problem, began work on a state-wide control program in 1962. We were interested in a mastitis control program for two reasons: 1) We considered mastitis to be one of our more costly herd health problems, and 2) We felt we could improve the quality of the product sold to the consumer. Research information such as presented in Tables 1, 2, and 3 below convinced us the dairyman must control mastitis to make the most profit from his investment.

Table I

Average Decrease in Milk Production
Associated With CMT Reactions
Washington Data

CMT Reading	Production Decrease in Pounds	
	Per Quarter	Per Day
Negative		0
Trace		.96
1		2.18
2		3.88
3		5.74

Table II

Average Decrease in Milk Production
Associated With CMT Reactions
Louisiana Data

<u>CMT Reading</u>	<u>Percent Production Decrease Per Quarter</u>
Negative	0
Trace	3
1	11
2	26
3	46

Table III

Estimated Losses Resulting From Subclinical Mastitis
Louisiana Data

<u>CMT Score</u>	<u>Loss Per Cow Per Year in Dollars*</u>
Negative	0
Trace	\$ 1.80
1	\$ 7.56
2	\$14.64
3	\$31.73

*Milk Valued at \$6.00 per cwt.

Our first job was to create an awareness among dairymen of the importance of controlling clinical and subclinical mastitis. Most dairymen thought of mastitis only as that which could be seen as lumpy or flaky milk or an animal with a swollen or inflamed quarter. Dairymen would tell us that mastitis was not a real problem with them. In 1962, a complete portable milking unit was borrowed from one of the equipment companies. In addition to this, vacuum recorders and air flow meters were purchased so the performance of milking equipment could be measured. Using this equipment, approximately 90 demonstrations were given throughout the state to dairymen, dairy labor, county agents, plant fieldmen, Board of Health personnel, veterinarians, and all persons interested in the dairy business. We attempted to show that good equipment and good milking procedures are most important in controlling mastitis and that this was a logical starting place for a control program. It was thought that 70 to 80% of mastitis could be prevented by having equipment that is operating properly and being run by a competent operator.

The entire program in Louisiana is built around prevention rather than curing mastitis. We know that we can't prevent all mastitis, but we also have experienced the frustrations of trying to treat it.

In 1963, a bulletin entitled, "You Can Control Mastitis," was published. This bulletin contained the same information that was given in the demonstrations throughout the state. Good equipment and good milking procedures were emphasized.

By early 1964, sufficient interest was built up in mastitis control that the Louisiana Mastitis Council was organized, composed of representatives of the following groups.

MEMBERS OF MASTITIS COUNCIL

Louisiana Department of Agriculture
Louisiana Veterinary Medical Association
Louisiana State Board of Health
Louisiana Dairy Products Association
Louisiana Farm Bureau, Dairy Section
Louisiana Animal Breeding Cooperative
North Louisiana Pure Milk Producers Association, Inc.
Southwest Louisiana Pure Milk Producers Association, Inc.
Baton Rouge Area Milk Producers Association
Gulf Milk Association, Inc.
L.S.U. Agricultural Experiment Station
L.S.U. Dairy Science Department
L.S.U. Veterinary Science Department
Louisiana Cooperative Extension Service

After several meetings, this group published, in mimeograph form its recommendations for mastitis control. These include the seven step program listed below.

RECOMMENDED STEPS OF MASTITIS CONTROL

Steps

- I Animal Identification
- II Equipment Checks
- III Follow Correct Milking Procedures
- IV Laboratory Screening Test on Bulk Tank Milk
- V CMT, or Similar Paddle Test on Individual Cows at Monthly Intervals
- VI Laboratory Examination of Milk Samples from CMT Positive Quarters as Shown by Step 5
- VII Follow a Complete Herd Health Program Under the Guidance of a Veterinarian.

Later these recommendations were published in pocket size bulletin form and paid for by the dairy industry of Louisiana. The Council's biggest contribution in the mastitis program probably has been in its efforts to have everybody telling the same story on mastitis control. The group has sponsored several meetings on mastitis control. For a time, the Council published a monthly newsletter which was distributed by milk plants and co-ops to all dairymen.

In 1965, a series of 80 slides was developed which again told the story of good equipment and milking procedures. In addition, we went into the anatomy of the udder to show how it was built. This helped explain the reasons for some of the recommendations being made for good milking procedures.

Now, for some of the results: The State Board of Health in Louisiana is responsible for administering the program on a state-wide basis, insofar as regulations are concerned. The Extension Service and Mastitis Council are responsible for the educational phase of the program. The Board of Health started running catalase tests in the southwest area of the state in 1966 to determine the level of infection in the dairy herds. Results from these tests showed 38% of all samples to be positive. After running catalase tests for about six months, it was decided that the Wisconsin Mastitis Test (WMT) would be a better test, so the Board of Health changed to it as the official test. A 1,250,000 leucocyte or white blood cell count was used to indicate a positive sample. The compulsory phase of the program started in July, 1967. Three consecutive positive samples are required for a degrade and all positive WMT samples are confirmed by a direct microscopic count. Two clean tests are required for a regrade.

A dairyman in trouble with suspicious or positive test can get help in locating his trouble from county agents, Extension dairymen, equipment dealers, health sanitarians, and veterinarians. Four state diagnostic labs located throughout the state run quarter samples to determine type of bacteria and also determine which medicine will kill the infection.

Table IV gives the results from January, 1967 to March, 1968.

Table IV

BG:bp

Percent Positive WMT Scores
January, 1967 - March, 1968

January, 1967	27.8
February, 1967	23.1
March, 1967	23.3
April, 1967	16.9
May, 1967	13.3
June, 1967	18.2
July, 1967	21.6
August, 1967	22.0
September, 1967	21.1
October, 1967	13.4
November, 1967	16.7
December, 1967	20.8
January, 1968	16.2
February, 1968	14.3
March, 1968	19.1

You will note that there is considerable fluctuation between various months. Much of this variation is coming from one area of the state that is characterized by small dairymen who have been slow to update equipment and change milking procedures. Also, this is an area plagued with mud during most of the year.

On a state-wide basis, progress has been made and it would appear that the positive samples are dropping about 5 to 6 per cent a year.

There are some observations which can be made from our experience in the program.

1. It is absolutely necessary to get the leadership of the dairy industry the state to understand and agree upon a program of this nature and then everyone tell the same story.

2. One of the bigger problems of a program of this nature is to decide upon the best test to use and decide on what will be a cut off point. Changing to different tests after the program is started causes some confusion. It is hoped that research can develop a more accurate and repeatable test for determining leucocyte count.

3. By studying data over a two year period, we seem to get a build-up of positive samples in July, August, and September or at a time when we have a number of late lactation cows in the barn. We think late lactation animals are giving more trouble than fresh cows.

4. Many of our positive samples are repeats and these generally are small dairymen, usually with older equipment and less sanitary conditions of the farm. Some of these are side-line dairymen with someone else doing the milking.

5. By following the recommendations of the Council, a dairyman can reduce his leucocyte count to a degree where there is no danger of degrade and his income can be improved.

EG:bp

Presented at the Fifth Annual Florida Dairy Production Conference
University of Florida, Gainesville
May 7 - 8, 1968