Mastitis : prevention and control. 3. Implementing the mastitis control programme

F C. Wilkinson

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IS THIS MASTITIS CONTROL ON YOUR PROPERTY?

1 Clots in the strip cup—a sure sign of mastitis infection.

2 Reach for the antibiotics! —the first reaction on nearly every dairy farm. But this treatment alone is not enough.

3 The next stage. Three-quarters are better than none—but this cow is nearing the end of her productive life and must soon be culled.

4 End of the road for these cows, culled because they were hopeless mastitis cases. Could they have been saved?
3. IMPLEMENTING THE MASTITIS CONTROL PROGRAMME

By F. C. WILKINSON, Veterinary Surgeon

FARMERS who have followed the first two articles in this series should by now have established the recommended milking routine and be familiar with it.

The next steps required to implement the mastitis control are:

- Record the Rapid Mastitis Test on all cows.
- Palpate all udders after milking out to feel for any abnormalities.
- Segregate the cows at milking, using the results of these tests.
- Treat quarters where indicated by the Rapid Mastitis Test and udder palpation results.

Recording The R.M.T.

Cows must first be entered on the record sheets in alphabetical or numerical order, leaving spaces for dry cows which will calve in the near future. Under each cow's name, should be put the date of calving and the number of previous lactations, because the decision whether or not to treat the cows with affected quarters may depend on these figures.

Next, the R.M.T. should be carried out on all cows at three separate milkings and the results recorded as 0 (negative) 1 (suspicious), 2 (positive) or 3 (strongly positive). The test should be done three times initially to make sure the readings are consistent and allow more accurate interpretation of the results.

Palpation of Udders

At a separate milking all quarters should be palpated after the udder has been milked out. Front quarters should be compared with one another for size and consistency, as should the back quarters. Quarters showing enlargement, withering or hardening should be marked as such in the appropriate place on the record sheets.

Segregation of the Herd

On the results of the R.M.T. and udder palpation, the herd can now be divided into two main groups—"clean" and "infected." Examples of readings of several cows at Wokalup at the start of the control programme, with their subsequent classifications, are shown on page 268 as examples of most cases likely to be met.

CLEAN GROUP

No Treatment: Cows with all four quarters, 0, or occasionally 1 +ve only, for example, Brindle and Caroline.

For Treatment: Cows with one or two quarters which are consistently 1, 2 or 3 +ve and yet appear normal on palpation, for example, Christine and Cindy.
### MASTITIS CONTROL PROGRAMME

#### Recording Sheet

<table>
<thead>
<tr>
<th>Cow's Name or Number — Age and Date of Calving</th>
<th>Quarter</th>
<th>Quarter Abnormalities</th>
<th>Date and Results of R.M.T</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMY</td>
<td>L.F.</td>
<td>Hard</td>
<td>3 3 3</td>
</tr>
<tr>
<td>5</td>
<td>L.H.</td>
<td>Enlarged</td>
<td>3 3 3</td>
</tr>
<tr>
<td>6 months</td>
<td>R.F.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>R.H.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BELINDA</td>
<td>L.F.</td>
<td></td>
<td>0 0 0</td>
</tr>
<tr>
<td>5</td>
<td>L.H.</td>
<td></td>
<td>0 1 1</td>
</tr>
<tr>
<td>8 months</td>
<td>R.F.</td>
<td></td>
<td>1 1 2</td>
</tr>
<tr>
<td></td>
<td>R.H.</td>
<td></td>
<td>0 0 0</td>
</tr>
<tr>
<td>BONES</td>
<td>L.F.</td>
<td>Hard</td>
<td>2 3 3</td>
</tr>
<tr>
<td>10</td>
<td>L.H.</td>
<td>Hard</td>
<td>2 3 3</td>
</tr>
<tr>
<td>8 months</td>
<td>R.F.</td>
<td>Hard</td>
<td>1 1 0</td>
</tr>
<tr>
<td></td>
<td>R.H.</td>
<td>Hard</td>
<td>2 2 2</td>
</tr>
<tr>
<td>BRIGITTE</td>
<td>L.F.</td>
<td></td>
<td>2 2 3</td>
</tr>
<tr>
<td>7</td>
<td>L.H.</td>
<td></td>
<td>3 3 3</td>
</tr>
<tr>
<td>4 months</td>
<td>R.F.</td>
<td></td>
<td>3 1 2</td>
</tr>
<tr>
<td></td>
<td>R.H.</td>
<td></td>
<td>2 1 3</td>
</tr>
<tr>
<td>BRINDLE</td>
<td>L.F.</td>
<td></td>
<td>0 0 0</td>
</tr>
<tr>
<td>10</td>
<td>L.H.</td>
<td></td>
<td>0 0 0</td>
</tr>
<tr>
<td>1 month</td>
<td>R.F.</td>
<td></td>
<td>0 0 0</td>
</tr>
<tr>
<td></td>
<td>R.H.</td>
<td></td>
<td>0 0 0</td>
</tr>
<tr>
<td>CAROLINE</td>
<td>L.F.</td>
<td></td>
<td>0 0 0</td>
</tr>
<tr>
<td>4</td>
<td>L.H.</td>
<td></td>
<td>0 0 0</td>
</tr>
<tr>
<td>4 months</td>
<td>R.F.</td>
<td></td>
<td>0 0 0</td>
</tr>
<tr>
<td></td>
<td>R.H.</td>
<td></td>
<td>0 0 0</td>
</tr>
<tr>
<td>CHRISTINE</td>
<td>L.F.</td>
<td></td>
<td>1 1 0</td>
</tr>
<tr>
<td>4</td>
<td>L.H.</td>
<td></td>
<td>2 1 0</td>
</tr>
<tr>
<td>5 months</td>
<td>R.F.</td>
<td></td>
<td>3 2 2T</td>
</tr>
<tr>
<td></td>
<td>R.H.</td>
<td></td>
<td>2 2 2T</td>
</tr>
<tr>
<td>CINDY</td>
<td>L.F.</td>
<td></td>
<td>0 0 0</td>
</tr>
<tr>
<td>6</td>
<td>L.H.</td>
<td></td>
<td>0 0 0</td>
</tr>
<tr>
<td>2 months</td>
<td>R.F.</td>
<td></td>
<td>0 0 0</td>
</tr>
<tr>
<td></td>
<td>R.H.</td>
<td></td>
<td>3 3 3T</td>
</tr>
</tbody>
</table>

T—To be treated.
INFECTED GROUP

Cows in which one or more quarters are 2 or 3 +ve and abnormal on palpation, for example, Amy and Bones.

Cows with one or more quarters 2 or 3 +ve and which are nearing the end of lactation, for example, Belinda.

Cows in which three or more quarters are 2 or 3 +ve and no udder abnormality detected, for example, Brigitte.

Some of the cows placed in the infected group are likely never to respond to treatment, while others will be given treatment when they next calve. The age of the cow might be taken into consideration when deciding whether to attempt treatment or not. Younger cows with more recent udder damage have a better chance of recovery following treatment than older cows.

Once it has been decided which cows should be placed in the clean and infected groups, the herd can then be segregated for milking purposes. Cows in the infected group should be identified by placing chains around their necks as discussed in the previous article.

Cows in the clean group must be milked first, and the quarters indicated should be treated immediately.

Treatment

Treatment may be carried out on all quarters to be treated at one time, or if too many cows are involved, they might be treated in batches. The quarters to be treated can readily be made obvious by placing a paint mark on the back of the cow in front of or behind the hip bone on the appropriate side. At the same time, a “T” should be marked on the record sheet indicating the quarter treated. Treatment with the chosen drug must be carried out at least twice, and the milk from the treated cows should not be included in the bulk milk until 72 hours after the last treatment.

The consequent history of the cows given as examples in the Wokalup herd is interesting:

- Amy and Bones calved again but treatment at calving was unsuccessful. They continued to be milked last until culled for low production.

- Belinda calved again, was treated in all four quarters, and is now in the clean group.

- Brindle and Caroline have remained in the clean group without any treatment.

- Christine and Cindy both responded to treatment and have stayed in the clean group.

Newly Calved Cows

Newly calved cows should be milked after the clean group but before the infected group.

Each cow which calves should be tested at her first milking and each day for the next three days. If all four quarters are negative she can be placed in the clean group. Usually, however, one or more quarters are positive at the first test, and the reaction in these quarters may or may not decrease by the fourth day.

If after the fourth day, any quarters are strongly positive, they should be treated and the cow tested seven days later.

If the treated quarters tested are negative or 1 +ve the cow can be placed in the clean group. If they are still strongly positive, she should be chained and milked in the infected group.

Future Progress

The herd now comprises a clean group of cows, milked first, and an infected group of cows, milked last. The milking routine should be running smoothly and be such that milk is rapidly and efficiently removed. Any possible spread of mastitis infection is reduced to a minimum by the dairy hygiene employed and the segregation.

The next two or three weeks are a settling-in period, during which it is necessary to carry out and record the R.M.T. results once a week on the clean group. No immediate action should be taken on the results of these tests; this will be the subject of the next article.

Procedures recommended so far will be required to keep the clean group free of mastitis with an aim of gradually increasing the clean group and decreasing the infected group.
Supervision

The steps described to implement a mastitis control programme are very important if mastitis is to be effectively brought under control. Any farmer who is uncertain about the procedure recommended should approach the nearest Government veterinary surgeon for assistance.

A veterinarian can carry out the R.M.T. on the herd and do udder palpations at one or two visits without unduly delaying milking. He can then advise on segregation and treatment. Once he has helped set the programme in motion, the herd's regular recorded results will allow him to follow the progress of the programme and give advice.

BUTTER-FAT HERDS

The foregoing procedure is for herds producing milk all the year round, and is necessarily more complicated than procedures for herds calving all cows down over a period of two or three months after a period of no milking.

Cows in these herds are simply tested at calving and quarters treated where indicated by the results of the tests. Cows calving can then be placed into the clean or infected group, thus establishing a milking order from the outset.

Regular testing of the clean group can then be carried out and any positive quarters recorded. The action to be taken on these results to control mastitis, that is, to keep the "clean" group relatively free of mastitis, will be discussed in the next article.
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