

Prevent the spread of Johne's in your herd

by Laura Moser

UNDERSTANDING how Johne's is transmitted from one animal to the next is critical. Research has found that calves under 6 months of age are the most susceptible. Most infections are assumed to occur at this time.

"There is no clear-cut recipe for Johne's disease control in many herds," says Donald Hansen, D.V.M., Oregon State University. "It requires long-term effort and

The author is an agricultural writer, based at Dansville, Mich.

sustained vigilance and is likely to impact many management areas on the farm and many employees' daily routines."

The National Johne's Working Group (NJWG) has specific management areas that should be addressed to reduce infections. It is important to note that the practices used to control Johne's are not complicated and generally are simple and inexpensive. Yet, they can significantly reduce the spread of the disease.

Because *Mycobacterium paratuberculosis*, the organism causing Johne's disease, is shed in the feces of adults, it is imperative that calves do not ingest the fecal matter from older animals. While the fecal-oral route is most common, infection also may occur via colostrum, milk, and through the placenta in utero. The National Animal Health Monitoring System (NAHMS) reported that both clinically affected and normal appearing infected cows (subclinical) may

shed *M. paratuberculosis* in their colostrum and milk, especially in later stages of infection.

You must put in place practices to prevent the exposure of calves to manure from adults. Calves should be born in a clean environment and separated from their mothers within six hours. Cleaning maternity pens after each use also helps prevent contamination.

Research at Michigan State University found that cleaning maternity pens after each use was associated with a three-fold reduction in the odds of a herd being positive for *M. paratuberculosis* infection. In the research conducted by Johnson-Ifearulundu and Kaneene, several calf-rearing practices were evaluated. Yet, only cleaning and moving calf hutches/pens was significantly associated with herd *M. paratuberculosis* infection status.

Watch manure handling . . .

Preventing manure contamination of feed and water supplies is also critical. Separate equipment should be used for manure handling and moving feed. The use of feed bunks also keeps the feed relatively free from manure contamination.

Michigan dairy producer Jim Slavik has battled Johne's disease in his herd for 18 years, and, with the help of his veterinarian, has implemented several practices to reduce the spread of Johne's. In addition to using separate equipment for handling feed and manure, he also is careful not to contaminate growing feed. "We never spread manure on our hay crop," Slavik states. "We prevent the manure from coming in contact with feed in all areas of our farm."

Pastures also need careful management. For maximum risk reduction, the NJWG recommends tilling infected pastures or grazing them with nonreplacement cattle until environmental conditions cause destruction of the Johne's bacteria which can take up to one year.

Lime can help . . .

Research at Michigan State University found that the incorporation of lime to pasture can serve as a protective measure against the spread of Johne's. In the study, a 10-fold reduction in the odds of herd infection was realized through the application of lime to pasture areas.

According to the researchers, the mechanism behind the proposed protective efforts of lime are not known. However, it is believed that the elevation in environmental pH caused by the lime reduces the ability of *M. paratuberculosis* to compete with the other microorganisms for available nitrogen.

M. paratuberculosis also is transmitted through colostrum and milk, making newborn calves especially susceptible if their mother is shedding the organism. Using colostrum from only test-negative cows will help. Colostrum from two

HOARD'S DAIRYMAN 2003 CALENDAR



Big, full color illustrations

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday																																																																																											
<table border="1"> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr> <tr><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td></tr> <tr><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td></tr> <tr><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td></tr> <tr><td>29</td><td>30</td><td>31</td><td></td><td></td><td></td><td></td></tr> </table>	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31					<table border="1"> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>	S	M	T	W	T	F	S																																												1	2	3	4
S	M	T	W	T	F	S																																																																																											
1	2	3	4	5	6	7																																																																																											
8	9	10	11	12	13	14																																																																																											
15	16	17	18	19	20	21																																																																																											
22	23	24	25	26	27	28																																																																																											
29	30	31																																																																																															
S	M	T	W	T	F	S																																																																																											
5	6	7	8	9	10	11																																																																																											
12	13	14	15	16																																																																																													
19	20	21	22	23																																																																																													
26	27	28	29	30																																																																																													

Just \$8

Shipping and handling: add \$2.50 for 1 calendar; add \$3 postage for 2 or 3.

Outside North America, add \$5 postage for 1 calendar and \$2 for each additional calendar.

Wisconsin residents, add 5.5% tax;

Calif. residents, add 7.5% tax;

Canadians, add 7% GST

Payment in US\$ - Visa/Mastercard accepted

October 2003

HOARD'S DAIRYMAN

Hoard's Dairyman Books

P O BOX 801 • FORT ATKINSON WI 53538-0801

FAX 920/563-7298 • E-MAIL hdbooks@hoards.com

ORDER THROUGH OUR ON-LINE BOOKSTORE AT

www.hoards.com

or more cows should not be pooled.

Removing newborn calves from their mothers as soon as possible prevents natural nursing and the potential ingestion of contaminated manure or milk. Because of the potential for disease transmission through milk, don't feed waste milk to calves. All calves should be fed a high-quality milk replacer until weaning.

Cary Dairy, a 540-cow herd in southern Michigan, has had a Johne's plan in place for several years. Conducting a whole-herd test was the first step, providing them with test results on every milking cow.

This enabled herd manager Gary Bivens to establish an effective colostrum feeding program. Newborns are fed colostrum from test-negative cows and then switched to milk replacer.

Producers who develop Johne's strategies that include routine testing have a way of evaluating the effectiveness of their program. Choosing the testing plan to best fit the farm's goals requires an understanding of the tests currently available. Consult with your veterinarian or other Johne's specialist to determine how to best use the available testing methods.

Once all animals are tested, you can decide on how to handle infected animals. Some people choose to identify and manage the infected animals or to cull the animals. Decisions regarding the handling of infected animals will be based on your goals and the prevalence rate of the herd.

"Test and manage" . . .

"Johne's doesn't scare me because I can control it," states Wisconsin dairy producer Tom Levendoski. Levendoski's 500-cow herd is tested at dryoff with a blood ELISA. Cows that return a positive result are tagged with a red ear tag, and their Johne's score is entered into the farm's software. In addition, Johne's positive cows are calved in a separate calving area, their colostrum is discarded, and they are put in the bullpen to be bred.

"Johne's positive cows are still a viable part of our operation; therefore, we don't test and cull but instead test and manage them differently," Levendoski says.

Before you buy . . .

People purchasing cattle need to be especially careful. Cary Dairy purchases a number of cattle each year to expand its 540-cow herd, and, in doing so, Bivens tries to purchase entire herds from reputable farms and avoids wholesale cow sales. However, even these practices neglected to keep Cary Dairy free from Johne's.

"We purchased a group of animals six years ago that began exhibiting similar signs of Johne's disease after calving: weight loss and diarrhea. We tested and determined they were Johne's positive," Bivens states. "We knew we had brought it onto the farm, and

now the focus is on slowing the progression and to eventually eradicate the problem."

People in the market to buy cattle should ask about the herd's Johne's prevalence before buying. Individual animal tests can give misleading results if there is not a whole-herd test to back up the individual test.

Herds not previously infected can prevent the introduction of Johne's disease by closing the herd from new animals or obtaining replacements from Johne's test-negative herds. Many states have adopted

Johne's control programs. These enable producers to declare with relative levels of confidence that their herd is free of Johne's.

The basics of prevention are straightforward and quite easy and affordable. In addition, Johne's control practices also will be effective in preventing other viral, bacterial, and parasitic diseases affecting cattle. Pathogens including calf scour microbes like BVD, Corona and Rota viruses, *E. coli*, and salmonella bacteria also are transmitted from infected animals shedding the pathogen in their feces. For more in-

formation on designing a Johne's program, contact your veterinarian or other Johne's specialist. 

Which state has the most?

3. In which state were the most Milking Shorthorn registration applications received in 2001? (see page 838 for answer)

- a. Ohio
- b. Minnesota
- c. California
- d. Wisconsin

*American Milking Shorthorn Society



"We planned our parlor for the next generation."

Kristi Tuckewood (left), with parents Roger and Linda Martin, Lancaster, WI

"We know we made the right choice."

You can be sure if it's a Westfalia • Surge ProFORMance[®] Center. No one offers a more complete package of parlor configurations to fit your current and future needs. Plus a wide choice of high-tech equipment and herd management tools to keep your system the most productive, trouble free and profitable operation possible. We also provide complete customized parlor design services, so you know you have the right layout and systems now and well into the future.

When you talk to other dairymen and visit your Westfalia • Surge dealer, you'll know why a ProFORMance Center is the right choice.

WESTFALIA SURGE

ProFORMance Center

Westfalia • Surge, Inc.
1880 Country Farm Drive, Naperville, IL 60563
TEL: 630-369-8100, TOLL FREE: 877-WS-DAIRY

Westfalia • Surge Canada Co.
6150 Kennedy Road, Mississauga, Ont L5T 2J4
TEL: 905-564-6856, TOLL FREE: 800-668-5508
www.westfaliasurge.com

Circle No. 27 on Reader Response Card

- Rotary and traditional parlors
- Milk metering systems
- Automated pre-dip systems
- Management software
- Stimulation, pulsation
- Instant cooling and storage systems