

Dairy & Livestock

Is Typhoid Mary in your herd?

By TINA KOHLMAN

MARY Mallon, also known as Typhoid Mary, was the first person to be identified as a "healthy carrier" of typhoid fever in the U.S. Even though she appeared and felt healthy, she directly caused several typhoid outbreaks over the course of her career as a cook, infecting 53 people that resulted in three deaths. Never showing the signs of typhoid, Mary Mallon may have been born with the disease, as her mother had typhoid fever during her pregnancy.

Costly disease

In the dairy industry, an animal persistently infected with bovine viral diarrhea is today's equivalent to Typhoid Mary. The animal may never show signs of the disease, but can shed the disease and infect others in the herd.

The BVD virus can cost the cattle industry \$35 million to \$65 million per year for every 1 million calves born, according to the National Animal Disease Center. Only 5% of animals infected with BVD show clinical

signs. The other 95% may not show signs but may have symptoms of secondary diseases, reducing their resistance to other infections, including:

■ **reproductive diseases:** early embryonic deaths, fetal abnormalities, abortions and birth of BVD-PI (persistently infected) calves

■ **respiratory disease:** subclinical infection of BVD, an infection we cannot see that allows cattle to become more susceptible to infection from other disease organisms

The easily transmitted BVD virus, once introduced into a herd, passes from an infected animal to a non-infected animal through the air or by direct contact with bodily excretions such as manure, saliva or nasal discharge.

The most severe problems resulting from BVD occur when pregnant cows or heifers are infected within the first 125 days of gestation when the virus can cross the placenta and infect the fetus. The surviving fetus's



immune system then recognizes the virus as a natural part of the body and makes no effort to eliminate it. The calf is born with a detectable antibody titer and is persistently infected. The

BVD-PI calf may be weak at birth, grow poorly, be susceptible to respiratory diseases or die at an early age due to a secondary disease such as pneumonia. However, the BVD-PI calf may appear normal and grow normally, reach breeding age, and produce more BVD-PI calves. These BVD-PI animals, or Typhoid Marys, are a major source of BVD and are extremely detrimental to your herd. Going unnoticed, the calf will carry, continually shed and spread the virus. One may not see the outbreak until BVD-infected animals become stressed and break with signs of the disease or other secondary diseases.

Most calves born to cows infected with BVD 150 days or later in gestation develop an antibody response to the virus

and eliminate it from the body. Therefore, they are no longer able to become persistently infected.

Test for BVD

Two types of tests can be utilized to screen for BVD-PI animals: an ear notch sample from the calf using pig-ear notchers or a blood sample submitted through the herd vet to a diagnostic lab. Once an animal is identified as PI, it should be culled from the herd immediately to prevent spread of the disease.

There is no effective treatment. Prevention and control are the keys to managing BVD. Work with your herd veterinarian to implement a strict biosecurity plan, including maintaining a closed herd.

If purchasing animals:

■ Purchase only open animals known to be BVD-negative.

■ Quarantine all new purchases from the rest of the herd up to 21 days.

■ Test all purchased animals for BVD-PI.

■ Screen all calves for BVD-PI.



■ Eliminate all animals identified as BVD-PI.

■ Protect pregnant animals from potential sources of infection during early gestation.

To increase resistance to the disease:

■ Maximize colostrum management program for calves.

■ Consult your vet and initiate a vaccination program using modified live or killed vaccine. (Modified live requires one shot. Killed requires two doses to initiate a high level of resistance followed by an annual booster.)

■ Reduce stress caused by other diseases.

Kohlman is the Sheboygan County Extension dairy and livestock agent.

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