

**JOHNE'S DISEASE :**  
**The Iowa Johne's Control Program**  
**for the DAIRY Producer**

**I. JOHNE'S DISEASE**

**A. Cause, Clinical signs, Incubation period & Infection**

Johne's disease is caused by bacteria called *Mycobacteria paratuberculosis*.

**Clinical signs** of Johne's disease are characterized by severe nonresponsive diarrhea and rapid loss of weight terminating in death. Appetite remains good until the later stages and usually affected animals do not have a fever. Some animals may have intermittent diarrhea for a period of time. "Subclinical" animals can also be infected but do not show clinical signs until later stages of the disease.

**Incubation period** (time from exposure to clinical symptoms) is from one to five or more years. Stress factors, such as calving and changes of feed or environment appear to trigger clinical disease.

Clinical cases usually do not start appearing in dairy cattle until two years of age, peak at three years (second calf) and drop off rapidly with relatively few cases noted after five years of age. Onset of symptoms is affected by age of exposure, amount of exposure, stress, and other health and management-related issues.

There appears to be some age immunity. Young calves (< 6 months of age) are more susceptible than mature cattle, but adults can become infected if exposure is high enough and stress can contribute to susceptibility.

The disease has been found in all breeds and severity of the infections within a herd seems to be related more to husbandry practices than to breed.

**B. Methods of Spread - Manure, Colostrum/milk and Intrauterine sources**

Infected manure is the primarily source of infection. Fecal contamination of teats, legs, feed and water by infected animals, particularly those showing clinical symptoms is the most common route of Johne's infection, especially in young animals.

Clinical animals are the worst spreaders of disease as they are shedding literally billions of the organisms which cause the disease. "Subclinical" animals (healthy looking) can also shed Johne's in their manure in large numbers.

**Manure** -The Johne's bacteria typically are swallowed then infect and grow in the small intestine. Infected animals can then shed Johne's in their manure. Infected animals are classified as types of shedders; low, moderate, heavy and 'super' – shedders. A super shedder can shed as much bacteria as 20,000 low shedders!

**Milk / colostrum** – Johne's infection can spread from the gut into the blood and infect other organs including the udder and uterus. The infected milk or colostrum route is seen more often in advanced stages or animals with clinical signs, but can be a problem in "subclinical" cows/heifers also.

**Intrauterine** infection has been reported in about 25 percent of the cows with clinical Johne's disease. Therefore, offspring from infected cows should not be kept as replacements.

## II. Iowa Johne's Control Program: Voluntary and Confidential

The **Iowa Johne's Disease Control Program** is a practical approach designed to reduce economic losses due to Johne's infection in dairy and beef herds and based on recommendations and guidelines set forth by the National Johne's Working Group.

The Program is made available through the **Iowa Department of Agriculture and Land Stewardship (IDALS)**:

- This **VOLUNTARY** Program was developed and monitored with the assistance of the **state Johne's Advisory Group** which has members which include representatives from:
  - **Dairy industry groups**
  - **Dairy producers**
  - **Dairy veterinarians**
  - Beef producers, industry, and veterinarians
  - Extension veterinarians
  - ISU Faculty and Johne's involved staff
  - Johne's research-involved persons
  - IDALS representatives:  
State Veterinarian, State District Veterinarians and the Designated Johne's Coordinator
- Risk Assessments, testing and results are **CONFIDENTIAL** within Iowa Law
- Three basic elements to the Program:
  1. **Education**
  2. **Management**
    - Free Risk Assessment
    - Vaccination option
  3. **Testing**
    - Free Program testing\*

## III. The Iowa Johne's Program - Vaccination Component

**Johne's vaccine** has been shown to be a valuable management tool in many herds with known Johne's infection. Vaccine is available through IDALS.

In order to qualify for the voluntary vaccination component the following is required:

- Must have a confirmed official Johne's test by isolation of the organism (culture or PCR).
  - Conduct a whole herd tuberculin-test and to include testing of purchased animals before introduction once vaccination starts.
  - Signed vaccination agreement with approval granted by State Veterinarian.
- Vaccine restrictions and requirements include:
    - Vaccine administered by an accredited veterinarian only.
    - Only for use in calves 35 days of age or younger.
    - Identification of vaccinated animals.

## IV. Iowa Johne's Program - Incentive Component:

(FREE testing and Risk Assessment)

- 1.) The first step is to complete a Johne's **Risk Assessment** performed by your State District Veterinarian at **no charge from IDALS**. Participation with your herd veterinarian is strongly advised.
  - A risk assessment is an (on-the farm) "walk-through" evaluation of the operation from calving facilities and calf management to the adult herd.
  - Information from these risk assessments are confidential as is testing.
- 2.) Next, you may choose testing options, if you decide to conduct some testing in your herd. Your State District Veterinarian can help you and your herd veterinarian choose the testing option that best suits your herd.
  - Johne's testing can be done on Milk, Manure or Blood
  - Environmental sampling and pooling of fecal samples are also options
- 3.) Because of decreased federal funding and no state appropriations, **Program (free\*) incentive testing** will be limited and subject to availability.

\* **Limited funding** is available for lab fees at Iowa State University Veterinary Diagnostic Lab for **2008**

## V. Johne's National Herd Status Component of the Program:

The above testing programs may help to put you on track for one of USDA's two Johne's Herd Status Programs if you choose to participate:

- **Test-Negative Herds**- with negative testing your herd could qualify for the Test-Negative Status classification, where annual testing can advance your herd toward a recognized higher status level; Johne's Program Levels 1, 2, 3, and 4.
- **Test-Positive Herds** are usually classified as **Management** or **Monitored Herds**

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✚ Participation in the **Iowa Johne's Control Program** is completely **voluntary**.

✚ **Confidentiality** of test results will be maintained within the limits of Iowa law.

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For more information please contact: **Dr. Randy Wheeler @ 515-281-0866**

\* (Program incentive payments must be approved by IDALS and will be subject to available funding for **2008**) *Trip and service charges, collection, shipping, and handling costs are not covered by the Program and will be determined by your veterinarian.*