

Guide to VCHIP Johne's Disease "semi-quantitative" Risk Assessment Score sheet and Checklist for Dairy Herds

Refer to the VTCHIP Risk Assessment Score sheet and Checklist for Dairy Herds

How to use the score sheet version of the risk assessment:

The purpose of using the score sheet for the risk assessment is to engage producers with their veterinarian or consultant in the process of systematically evaluating factors and management areas on a farm for their potential contribution to spreading Johne's disease (or related pathogens). The score sheet is divided into five sections (calving area, pre-weaned calves, post-weaned calves, bred heifers, and cows). Within each section you assign a score to relevant risk factors or management practices. The purpose of the score is to attempt to rate the relative importance of factors and areas in as a risk of spreading Johne's disease. The value you assign is relative to an ideal or standard of management. Scores have only relative significance and are subjective depending on the standard of the rater. However, higher total scores point to areas of greater risk and are important to focus on for control of Johne's disease on the particular farm. For example, a farm may record a total score of 100 out of 200 possible points. The calving area and pre-weaned calf management may have contributed 60 and 25 of those points respectively, while bred heifers and cows only contributed 15 points to the total. This helps set priorities for implementing specific management efforts to reduce the greatest risks, in this case to improve management of the calving area and pre-weaned calf care.

The prevalence of *M. paratuberculosis* in the herd is an important factor that influences the ability of infection to spread in the herd. The higher the prevalence, the higher the relative risk of transmission for any particular factor. Suspected herd prevalence is not taken into account in the risk assessment but its additional impact should be considered throughout the process.

One suggestion is for two or more participants to score areas independently, and after that compare scores. Scores will vary according to each individual's standards for management. Discussion can then proceed to compare reasons for different scores. The ultimate objective is to address criteria for acceptable management in that area taking into account the farm's objectives for Johne's control, as well as their relative satisfaction with the management overall.

Standardized descriptions will be used for this risk assessment as part of the 2002 Dairy NAHMS survey. They are provided in the following as additional ideas or help in scoring each the risk factors.

You may use the following guidelines as an aid in assigning a score to each of the management practices:

1. CALVING AREA

- a. **Multiple animal use (i.e. is the calving area used for more than one cow?)**
 - 0= NEVER
 - 3= RARELY-- Occurs less than 1 out of 10 calvings
 - 5= OCCASIONALLY-- Occurs 1-3 times out of 10 calvings
 - 7= FREQUENTLY-- Occurs 5 or more times per 10 calvings
 - 10= ALWAYS

- b. **Manure build-up (i.e. is there manure build-up in the calving area?)**
 - 0= NONE
 - 3= MINIMAL-- Manure from 1 cow then cleaned daily
 - 5= MODERATELY-- Cleaned 1-2 times per week
 - 7= CONSIDERABLE-- Cleaned 1-2 times per month
 - 10= EXTENSIVE-- Cleaned less than 1 time per month

- c. **Calves born in cow areas (How frequently are calves born in areas that hold cows?)**
 - 0= NEVER
 - 3= RARELY-- Occurs less than 1 out of 10 calvings
 - 5= OCCASIONALLY-- Occurs 1-3 times out of 10 calvings
 - 7= FREQUENTLY-- Occurs 5 or more times per 10 calvings
 - 10= ALWAYS

- d. **Calving area also used for sick cows (How frequently is the calving area also used for holding or treating sick cows?)**
 - 0= NEVER
 - 3= RARELY-- Occurs less than 1 time per month
 - 5= OCCASIONALLY-- Occurs 1 to 5 times per month
 - 7= FREQUENTLY-- Occurs greater than 5 times per month
 - 10 = ALWAYS

- e. **JD clinicals/suspects in area (Are cows clinically ill with JD or suspected of having JD kept in the calving area)**
 - 0= NEVER
 - 3= RARELY-- Occurs less than 1 time per month
 - 5= OCCASIONALLY-- Occurs 1 to 5 times per month
 - 7= FREQUENTLY-- Occurs greater than 5 times per month
 - 10 = ALWAYS

- f. **Newborn calves stay with cows after birth (Do newborn calves stay with their dams after they are born for more than 3 hours?)**
 - 0= NEVER
 - 3= RARELY-- Occurs less than 1 time out of 10 calvings
 - 5= OCCASIONALLY-- Occurs 1-3 times out of 10 calvings
 - 7= FREQUENTLY-- Occurs 5 or more times per 10 calvings
 - 10= ALWAYS

- g. **Calves nurse cows (How often are calves allowed to nurse cows?)**
 - 0= NEVER
 - 3= RARELY-- Occurs less than 1 out of 10 calvings
 - 5= OCCASIONALLY-- Occurs 1-3 times out of 10 calvings
 - 7= FREQUENTLY-- Occurs 5 or more times per 10 calvings
 - 10= ALWAYS

h. Manure soiling of cows/udders (How much are cow's udders soiled with manure?)

0= NONE-- Teats and udders clean

3= MINIMAL-- Teats clean, moderate manure on udder on a majority of the cows in the calving area

5= MODERATE-- Teats clean, moderate to heavy manure on udder on a majority of the cows in the calving area

7= CONSIDERABLE-- Small to moderate amount on teats but udder covered with manure on a majority of cows in the calving pen

10= EXTENSIVE-- Teats and udders caked with manure on a majority of cows in the calving area

Other issues/questions concerning the calving area to consider, which may indirectly affect the above scores

❖ **On average, how many times is the calving area observed between 6am and 6pm?**

❖ **On average, how many times is the calving area observed between 6pm and 6am?**

❖ **How many individual calving pens are present?**

2. PRE-WEANED CALVES

a. Fed pooled colostrums/multiple cows (Do you feed pooled colostrum from multiple cows to calves?)

0= NEVER

3= RARELY-- Pooled colostrum fed 1-2 times per year

5= OCCASIONALLY-- Pooled colostrum fed 1-2 times per month

7= FREQUENTLY-- Pooled colostrum fed most of the time

10= ALWAYS

b. Fed pooled milk (Do you feed pooled milk from multiple cows to calves?)

0= NEVER

3= RARELY-- Pooled milk fed 1-2 times per year

5= OCCASIONALLY-- Pooled milk fed 1-2 times per month

7= FREQUENTLY-- Pooled milk fed most of the time

10= ALWAYS

c. Calves have direct cow contact (Are pre-weaned calves housed near adult cows?)

0= NEVER

3= RARELY-- Housed near adults only when necessary, only for short periods of time, no run-off possible, and minimal or no direct contact

5= OCCASIONALLY-- Housed near adults, only for short periods of time, where run-off is possible, and minimal direct contact

7= FREQUENTLY-- Housed next to adults for short periods of time, where run-off possible, and direct contact probable

10= ALWAYS

d. Potential for contamination of milk, feed, water, stall with cow manure (Can manure from adult cows contaminate the milk, feed, water or housing area, of pre-weaned calves?)

0= NEVER

3= RARELY-- Trace amounts of manure visible; waterers and feeders cleaned more than 1 time per month

5= OCCASIONALLY-- Some manure visible; waterers and feeders cleaned less than 1 time per month

7= FREQUENTLY-- Large amounts of manure visible; waterers and feeders not cleaned regularly

10= ALWAYS

3. POST-WEANED HEIFERS

- a. **Direct contact with cows/manure (Are post-weaned calves housed near adult cows?)**
0= NEVER
3= RARELY-- Housed near adults only when necessary, only for short periods of time, no run-off possible, and minimal or no direct contact
5= OCCASIONALLY-- Housed near adults, only for short periods of time, where run-off is possible, and minimal direct contact
7= FREQUENTLY-- Housed next to adults for short periods of time, where run-off possible, and direct contact probable
10= ALWAYS
- b. **Potential for contamination of feed, water, housing with cow manure (Can manure from adult cows contaminate the milk, feed, water, or housing area of post-weaned heifers?)**
0= NEVER
1= RARELY-- Trace amounts of manure visible; waterers and feeders cleaned more than 1 time per month
2= OCCASIONALLY-- Some manure visible; waterers and feeders cleaned less than 1 time per month
3= FREQUENTLY-- Large amounts of manure visible; waterers and feeders not cleaned regularly
5= ALWAYS
- c. **Share feed, water, housing with cows (Do post-weaned heifers share feed, including leftover feed or weigh-backs, water or housing with adult cows?)**
0= NEVER
1= RARELY-- Share feed, water or housing only when necessary or by mistake, less than 1 time per month
2= OCCASIONALLY-- Share feed, water or housing 2-5 times per month
3= FREQUENTLY-- Share feed, water or housing more often than do not share
5= ALWAYS
- d. **Share pasture with cows (Do post-weaned heifers share pasture with adult cows?)**
0= NEVER
1= RARELY-- Share pasture only when heifers escape
2= OCCASIONALLY-- Share pasture less than 25% of the time
3= FREQUENTLY-- Share pasture more than 25% of the time, but less than 100% of the time
5= ALWAYS
- e. **Manure spread on pasture and grazed or harvested as hay in the same season (Is manure spread on pasture and pasture grazed or harvested as hay in the same season and fed to post-weaned heifers?)**
0= NEVER
1= RARELY-- Manure spread on pasture only when no other option
2= OCCASIONALLY-- Manure spread on pasture and grazed or harvested between 0-2 months after spreading
3= FREQUENTLY-- Manure spread on pasture routinely and grazed or harvested when forage matures, regardless of time
5= ALWAYS
- f. **Contamination of feed equipment (Does manure contaminate equipment used to feed post-weaned heifers?)**
0= NEVER
1= RARELY-- Trace amounts of manure visible, feeding equipment cleaned more than 1 time per month
2= OCCASIONALLY-- Some manure visible, feeding equipment cleaned less than 1 time per month
3= FREQUENTLY-- Large amounts of manure visible, feeding equipment not cleaned regularly
5= ALWAYS

Other issues/questions concerning the calving area to consider, which may indirectly affect the above scores

- ❖ **How many waterers are shared between post-weaned heifers and adult cows?**
- ❖ **How many feed bunks are shared between post-weaned heifers and adult cows?**

- ❖ **If housed in different pastures, what is the length of fence-line contact between post-weaned heifers and cows?**

4. BRED HEIFERS

- a. Direct contact with cows/manure (Are heifers housed near adult cows?)**
 - 0= NEVER**
 - 3= RARELY**-- Housed near adults only when necessary, only for short periods of time, no run-off possible, and minimal or no direct contact
 - 5= OCCASIONALLY**-- Housed near adults, only for short periods of time, where run-off is possible, and minimal direct contact
 - 7= FREQUENTLY**-- Housed next to adults for short periods of time, where run-off possible, and direct contact probable
 - 10= ALWAYS**

- b. Potential for contamination of feed, water, housing with cow manure (Can manure from adult cows contaminate the feed, water or housing area of bred heifers?)**
 - 0= NEVER**
 - 1= RARELY**-- Trace amounts of manure visible, waterers and feeders cleaned more than 1 time per month
 - 2= OCCASIONALLY**-- Some manure visible, waterers and feeders cleaned less than 1 time per month
 - 3= FREQUENTLY**-- Large amounts of manure visible, waterers and feeders not cleaned regularly
 - 4= ALWAYS**

- c. Share feed, water, housing with cows (Do bred heifers share feed (including leftover feed—weigh-backs), water or housing with adult cows?)**
 - 0= NEVER**
 - 1= RARELY**-- Share feed, water or housing only when necessary or by mistake, less than 1 time per month
 - 2= OCCASIONALLY**-- Share feed, water or housing 2-5 times per month
 - 3= FREQUENTLY**-- Share feed, water or housing more often than do not share
 - 4= ALWAYS**

- d. Share pasture with cows (Do bred heifers share pasture with adult cows?)**
 - 0= NEVER**
 - 1= RARELY**-- Share pasture only when heifers escape
 - 2= OCCASIONALLY**-- Share pasture less than 25% of the time
 - 3= FREQUENTLY**-- Share pasture more than 25% of the time, but less than 100% of the time
 - 4= ALWAYS**

- e. Manure spread on pasture and grazed or harvested as hay in same season (Is manure spread on pasture and the pasture grazed or harvested as hay in the same season and fed to bred heifers?)**
 - 0= NEVER**
 - 1= RARELY**-- Manure spread on pasture only when no other option
 - 2= OCCASIONALLY**-- Manure spread on pasture and grazed or harvested between 0-2 months after spreading
 - 3= FREQUENTLY**-- Manure spread on pasture routinely and grazed or harvested when forage matures, regardless of time
 - 4= ALWAYS**

- f. Contamination of feed equipment (Does manure contaminate equipment used to feed bred heifers?)**
 - 0= NEVER**
 - 1= RARELY**-- Trace amounts of manure visible, feeding equipment cleaned more than 1 time per month
 - 2= OCCASIONALLY**-- Some manure visible, feeding equipment cleaned less than 1 time per month
 - 3= FREQUENTLY**-- Large amounts of manure visible, feeding equipment not cleaned regularly
 - 4= ALWAYS**

Other issues/questions concerning the calving area to consider, which may indirectly affect the above scores

- ❖ **How many waters are shared between bred heifers and adult cows?**
- ❖ **How many feed bunks are shared between bred heifers and adult cows?**
- ❖ **If housed in different pastures, what is the length of fence line contact between bred heifers and cows?**

5. **ADULT COWS**

- a. **Contamination of feeders, waters (Does adult cow manure contaminate feeders or waters of adult cows?)**
0= NEVER
1= RARELY-- Trace amounts of manure visible, waterers and feeders cleaned more than 1 time per month
2= OCCASIONALLY-- Some manure visible, waterers and feeders cleaned less than 1 time per month
3= FREQUENTLY-- Large amounts of manure visible, waterers and feeders not cleaned regularly
4= ALWAYS
- b. **Manure contamination of feed storage or feed equipment (Does adult cow manure contaminate feed storage areas or feeding equipment?)**
0= NEVER
1= RARELY-- Trace amounts of manure visible, feeding equipment cleaned more than 1 time per month
2= OCCASIONALLY-- Some manure visible, feeding equipment cleaned less than 1 time per month
3= FREQUENTLY-- Large amounts of manure visible, feeding equipment not cleaned regularly
4= ALWAYS
- c. **Manure spread on pasture and grazed or harvested as hay in same season (Is manure spread on pasture and grazed or harvested as hay in the same season and fed to adult cows?)**
0= NEVER
1= RARELY-- Manure spread on pasture only when no other option
2= OCCASIONALLY-- Manure spread on pasture and grazed or harvested between 0-2 months after spreading
3= FREQUENTLY-- Manure spread on pasture routinely and grazed or harvested when forage matures, regardless of time
4= ALWAYS
- d. **Do adult cows have access to manure storage areas?**
0= NEVER
1= RARELY-- Access to manure storage occurs only by mistake, less than one time per month
2= OCCASIONALLY-- Access to manure storage occurs 2-5 times per month
3= FREQUENTLY-- Access to manure storage occurs more often than not
4= ALWAYS