Handbook for Veterinarians and Dairy Producers

A guide for Johne's disease risk assessments and management plans for dairy herds

For use by veterinarians with dairy clients to improve biosecurity and reduce pathogens

Approved for distribution and use by the National Johne's Working Group a subcommittee of the Johne's Committee of the United States Animal Health Association

For explanation and/or instructions on how to complete this document, refer to the Instruction Handbook entitled, "How to Do Risk Assessments and Management Plans for Johne's Disease".

Acknowledgements

Current Herd Health Status and Concerns (Filling out this page is optional)

Collecting this information will provide information that is important to consider when implementing the elements of the Johne's disease prevention or control plan. This format is designed to show the farm's performance-limiting health issues and the level of concern that the owner has for them. Many of the health and production problems brought to light by information on this page may be already addressed by the owner. The final Johne's management plan should blend in with these current performance-limiting health issues and concerns.

Fill in requested information, circle choice or specify the incidence (or level of concern for problem) by checking your choice (U, 1, 2 or 3) in the box next to listed disease.

U= unknown incidence or problem
1= OK, low incidence, not a current problem

2= Moderate incidence, may be need attention
3= Significant incidence, unsatisfactory, needs attention

Calf Feeding Practices
Avg. hrs. to 1st colostrum
Amount 1st colostrum fed
Colostrum source (Individual / Pooled)
Total no. colostrum feedings
Feed unpasteurized milk, pasteurized milk, milk replacer (circle choices)

Calf Disease Incidence or Level of Concern				
Pre-wean mortality (Last 12 mos.)				
Calf vigor (satisfactory / unsatisfactory)				
Calf growth (satisfactory / unsatisfactory)				
Protocol for keeping feed and feeding equipment sanitary				
Scours	U	1	2	3
Pneumonia	U	1	2	3
Other	U	1	2	3

Heifer Disease Incidence or Level of Concern				
Heifer growth (poor / good)				
Age at freshening (months)				
Breeding program (satisfactory / unsatisfactory)				
Pneumonia	U	1	2	3
Digital dermatitis	U	1	2	3
Coccidiosis	U	1	2	3

Milk Quality and Udder Health
Bulk tank SCC
Bacteria count / SPC
Number mastitis cases per month
Recent culture and sensitivity results

Reproduction Program
Heat detection rate
Conception rate
Pregnancy rate
Herd average DIM
Abortions / yr (% herd)
Embryonic loss
Method of insemination

Lameness incidence or level of concern				
% of cows with obvious lameness				
Foot trimming schedule				
Digital dermatitis	U	1	2	3
Laminitis	U	1	2	3
Abscesses	U	1	2	3
Foot Rot	U	1	2	3
Other	U	1	2	3

Infectious Dis. Incidence				
Johne's	U	1	2	3
Salmonellosis	U	1	2	3
Neosporosis	U	1	2	3
BVD	U	1	2	3
Respiratory disease	U	1	2	3
BLV	U	1	2	3
Clostridial disease	U	1	2	3
Leptospirosis	U	1	2	3
Other	U	1	2	3

Metabolic Dis. Incidence (fresh cows last 6 mo)				
Milk fever	U	1	2	3
Retained placentas	U	1	2	3
Ketosis	U	1	2	3
Mastitis	U	1	2	3
Metritis	U	1	2	3
DAs	U	1	2	3
Acidosis	U	1	2	3
Stillborn / dystocia cases	U	1	2	3
Other	U	1	2	3

Culling Incidence				
Cull Rate % last 6 months				
< 60 DIM	U	1	2	3
Deaths	U	1	2	3
Mastitis	U	1	2	3
Reproduction	U	1	2	3
Lameness	U	1	2	3
Low production	U	1	2	3
Other	U	1	2	3

Herd information, owner goals and biosecurity issues

Farm owner (or herd code) _____ **Date** _____

Herd Veterinarian_____ **Phone**_____

General Herd Information

Key farm management (decision-makers, key employees)

Dairy Herd inventory:	Lactating cows/heifers _____	Dry cows _____	**Total cows** _____
	Bred heifers _____ Growing heifers _____	Bulls _____	**Total head** _____

In addition to dairy cattle, what other animals do you raise?

Owner Goals and Some Biosecurity Questions

Do you plan to be dairy farming in 5 years?

Describe short and long-term owner goals or priorities for the farm. Some examples to consider are herd size, animal health and performance, facilities, business/employee management, family goals, environmental issues, markets, milk quality, beef quality or other.

Short-term (this year)	**Long-term (3-5 years)**
Current milk/cow/day or year (lbs.)	Milk/cow/day or year goal (lbs.)
Current % BF	% BF goal
Current % Protein	% Protein goal

What are your top five overall concerns for your operation?

What herd health improvements you are making or plan to make?

What management concerns and/or facilities issues you are addressing or plan to address?

List how you obtain replacements (e.g., home raised, dealer, market, single dairy, etc.)	List planned changes for obtaining replacements

If replacements are born at farm and raised elsewhere, describe how their biosecurity is maintained.

List how you obtain herd additions (e.g., home raised, dealer, market, single dairy, etc.)	What health prerequisites do you require for herd additions?

How are cows identified?	How are their calves identified as theirs?

Outline vaccination routine for cows

Outline vaccination routine for bred heifers

Outline vaccination routine for young stock

Herd Risk Assessment, history and prevalence of Johne's Disease

❑ How long has the herd been here?_____

❑ How was it assembled? _____

❑ What percent of the current herd was born on the premises? _____ % purchased? _____

❑ What percent of the herd was born here, but raised elsewhere? _____

 Were those animals commingled with animals from other farms?   Yes   No

❑ When was the 1st clinical case of JD diagnosed or suspected (year)? _____

❑ What was age and source (home raised or purchased) of 1st case? _____

❑ What was the youngest case (age, date, source)? _____

List clinical cases beginning with the most recent (use another sheet if needed)

ID	Date	Approx. age	Farm raised or from outside	Offspring ID still in herd

Record information from the last 12 months

Information Category	1st lact	2nd lact	3+ lact	Total	% of herd
Clinical Johne's cases (e.g., chronic diarrhea or wt. loss)					
Cattle culled last 12 mo. (any reason)					
Johne's cases as % of cows culled					
Number animals with positive fecal culture					
Number animals with positive ELISA results					

Introduction of new cattle

Group	No. last 12 mo.	JD status of seller herd (Test-negative, unknown, etc.)	No. 2 - 5 yrs ago	JD status of seller herd (Test-negative, unknown, etc.)
Cows				
Heifers				
Others				
Total				

Estimate the prevalence of Johne's disease in the herd

[Low   Moderate   High   ]
Place an X on line above where you estimate herd prevalence might be.
Consider number, age and timeframe of clinical cases for estimating prevalence of Johne's in the herd.

You may also use information from boxes below to help estimate herd prevalence.			
Low	**Moderate**	**High**
No or rare clinical cases Clinical only in purchased animals ~< 5% test prevalence mostly in older animals Excellent management and sanitation2= Moderate incidence, may be a concern	Few clinical cases in home-reared animals Recent history of 2-5% clinicals/year ~6-19% test prevalence mixed group Management allowed for some contact of weaned young stock with manure or older animals	Frequent in home-reared animals Increasing clinical cases Decreasing age of clinicals ~> 20% test prevalence mixed group Severe risks exist for contact of young stock with manure of mature animals

Risk Assessment Scores (based on visual observation of each environment and owner responses)
Estimate the risk for fecal/oral and colostrum/milk disease spread, or gap in farm's biosecurity, for each management practice. Follow the logical order. ***Observe Proper Biosecurity*!** Note how current management conditions differ from past. Ideally producer & veterinarian score risks independently. Then compare & discuss relative importance in development of management plan. See Step 4 in the 'How to Do' instructional handbook, pages 2 -5 for guidelines to completing area risk assessments.

A. Calving Area Risk Factors
(Place an X in the box to the right of the management practice that most closely signifies the risk for that item.)

Notes / Current vs. Past

	0.	1 V. Low	2. Low	3.	4.	5 Moderate	6.	7.	8. High	9.	10. V. High
1. Multiple animal use [Single pen → Dense crowded group]											
2. Manure build-up risk for calf ingestion [Clean dry → Dirty wet]											
3. Area also used for sick cows [Never → Always]											
4. Presence of JD clinicals / suspects [Never → Always]											
5. Manure soiled udders / legs [Never → Always]											
6. Calves born in other cow areas [Never → Always]											
7. Time calves stay with dam [<30 minutes → >24 hours]											
8. Calves nurse dam [Never → Most or all]											

Maximum score = 80. Your herd score is _____. Consider the impact of JD prevalence on ability to reduce risks.

Estimate the risk for spreading Johne's in the calving area: **Very Low   Low   Moderate   High Very High** *(Circle choice)*

B. Pre-Weaned Heifer Risk Factors

Notes / Current vs. Past

	0.	1. V. Low	2. Low	3.	4.	5. Mod.	6.	7.	8. High	9.	10. V. High
1. Fed pooled colostrum [Never or JD negative → High risk cows]											
2. Fed colostrum from individual cow to several calves [As 1. above]											
3. Fed unpasteurized pooled milk [JD negative cows → High risk cows]											
4. Possible manure contamination of colostrum or milk:at harvest, utensils, traffic or people [None any source → Frequent many sources]											
5. Possible manure contamination of calf feed or water: by cows, traffic splatter, equipment or people [As 4. above]											
6. Direct cow contact or potential manure contamination of calf pen by cows, traffic splatter, equipment or people [As 4. above]											

Maximum Score is 60. Your herd score is _____. Consider the impact of JD prevalence on ability to reduce risks.

Estimate the risk for spreading Johne's in pre-weaned calves: **Very Low   Low   Moderate   High   Very High** *(Circle choice)*

C. Post-Weaned Heifer Risk Factors

Risk Factor	0.	1. V	2.	3.	4. Mod.	5.	6.	7. V
1. Direct cow contact or pen contamination with cows' manure [None → Always]								
2. Possible manure contamination of feed: refused cow ration, stored feed, equipment, cows, traffic splatter, people or runoff [Never → Frequently]								
3. Potential for contamination of supplied or natural water: shared with cows, traffic splatter, runoff or people [Never → Frequently]								
4. Share pasture with cows [Never → Frequently]								
5. Manure spread on forage and fed same season [Never → Frequently]								

Maximum Score is 35. Your herd score is _____. Consider the impact of JD prevalence on ability to reduce risks.

Estimate the risk for spreading Johne's in post weaned heifers: **Very Low   Low   Moderate   High   Very High** *(Circle choice)*

D. Bred Heifer Risk Factors

Risk Factor	0.	1. V Low	2.	3. Mod	4.	5. V High
1. Direct cow contact or pen contamination with cows' manure. [None → Always]						
2. Possible manure contamination of feed: refused cow ration, stored feed, equipment, cows, traffic splatter, people or runoff. [Never → Frequently]						
3. Possible manure contamination of water sources: shared with cows, by cows, traffic splatter, runoff or people. [Never → Frequently]						
4. Share pasture with cows [Never → Frequently]						
5. Manure spread on forage and fed same season. [Never → Frequently]						

Maximum Score is 25. Your herd score is_____. Consider the impact of JD prevalence on ability to reduce risks.

Estimate the risk for spreading Johne's in bred heifers: **Very Low   Low   Moderate   High   Very High** *(Circle choice)*

E. Cow and Bull Risk Factors	0.	1. Low	2.	3	4. High	Notes / Current vs. Past
1. Possible manure contamination of feed: when fed or stored, by equipment, traffic splatter, runoff or people [Never → Frequently]						
2. Possible manure contamination of water: by cows, traffic splatter, runoff or people [Never → Frequently]						
3. Direct access to accumulated or stored manure [Never → Frequently]						
4. Manure spread on forage and fed the same season [Never → Frequently]						

Maximum Score is 16. Your herd score is _____. Consider the impact of JD prevalence on ability to reduce risks.

Estimate the risk for spreading Johne's among cows: **Low**   **Moderate**   **High** *(Circle choice)*

F. Sources of Additions and Replacements	Number of Animals					Comments
	1-5	6-12	13-20	21-50	>50	
1. Get additions or replacements from Level 2-4 Status Herd	0	2	4	6	8	
2. From low risk herds, Level 1 or pre-tested herds	10	11	12	13	14	
3. From single source non-tested or non-program herds	20	22	23	26	28	
4. From multiple sources non-tested or non-program herds or markets	30	34	36	38	40	

(Circle the square in each row that reflects management in the past 12 months. Include E.T. recipients and bulls))

Maximum Score allowed is 60 (If score is >60 place 60 in space). Your herd score is_____. Consider the impact of JD prevalence on ability to reduce risks.

Estimate the risk from herd additions/replacements: **Very Low**   **Low**   **Moderate**   **High**   **Very High** *(Circle choice)*

Risk Assessment Summary **Completing this Table is optional.** However, calculating the herd scores for each area as a percent of the area's maximum score and as a percent of the herd's total score will highlight the top risk areas to address in the farm plan.	Risk Factor Areas	Maximum Score	Your Herd Score	Each Area Herd Score / Each Area Max Score (%)	Each Area Herd Score / Your Total Herd Score (%)
	Calving area	80			
	Pre-weaned heifers	60			
	Post-Weaned heifers	35			
	Bred heifers	25			
	Cows and bulls	16			
	Additions/Replacements	60			
	Total	**276**			

List the risk factors of most importance identified by assessment

Building the elements of the testing strategy for Johne's management plan. See Step 5 in the 'How to Do' handbook, page 8, for guidelines.

1. What is the testing scheme expected to accomplish and how will it help reach plan objectives?
2. What test (s) will be used?
3. Who will be tested?
4. When?
5. What decision (s) will be made on results? Consider higher vs. lower risk 'test-positive' cattle.

Assembling the Johne's Disease Management Plan

See Step 6, pages 8 – 10, in the 'How to Do' handbook for guidelines.

Issues to integrate include:

1. The owner's Johne's management plan objectives (e.g., find out if JD is present, eliminate the infection from herd, prevent introduction into herd, establish official test-negative or low risk status).

2. List planned management changes for each area or management group brought to light by the risk assessment. If there are no changes planned for a specific area or group, simply list current herd management procedures.

3. Be certain to coordinate Johne's management procedures in this plan with other health / management objectives already in place. It may serve as an incentive for owners with low risk herds thinking of seeking official status. Especially note where these other objectives and health concerns will benefit from the Johne's management efforts that are outlined in the plan, (e.g., lower calf mortality or morbidity, healthier fresh cows, etc.). See Step 7, pages 10 and 11, in the 'How to Do' handbook for guidelines.

4. Before signing off on this management plan, be certain the overall strategy is comprehensive and effective enough to meet management goals. The plan should take current JD prevalence estimate into account for setting realistic goals. Proposed actions should be practical and feasible to implement and *they may be applied in phases*. Procedures should integrate with available resources and other farm management priorities. See Step 8, page 12, in the 'How to Do' handbook.

Johne's Management Plan

What are the objectives of the herd plan? ☐ Determine status of herd ☐ Prevent JD introduction into herd ☐ Prevent further spread
☐ Establish test negative status ☐ Reduce the infection in herd ☐ Other

Management practice to reduce identified risks for Johne's disease in this herd	How does practice benefit and/or integrate with existing health / management objectives	Priority Lo, M, or Hi	Person(s) in charge
Testing strategy			

Name of Johne's certified veterinarian or animal health official that completed risk assessment and herd plan_____

Signature _____ Phone Number_____