



## Calf Investigation Data

Farm Name: \_\_\_\_\_ Date of visit: \_\_\_\_\_

Medical Record Number: \_\_\_\_\_ RDVM: \_\_\_\_\_

Herd Signalment:

Farm records (circle those that apply):

DHI Herd code: 35 Release code \_\_\_\_\_

Dairy Comp

Get back up

Other computerized

Written

None

Calf workers and responsibilities:

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Chief complaint(s) or farm's view of the problem:

Specific goals to be addressed:

Information from questionnaire that needs clarification:

Colostrum Details:

Calf Feeding Details:



**Calf Housing Details:**

**Protocols:**

- Complete Vaccination Protocol evaluation sheet

**Health records:**

- Collect record from farm, complete or clarify

**FARM DATA**

**Colostrum and Feeding**

Who feeds colostrum? \_\_\_\_\_

Is colostrum feeding recorded? \_\_\_\_\_ (Bring a sample sheet back)

**Colostrum Storage**

- Check the boxes that apply:
  - Colostrum containers are exceptionally clean
  - Most but not all containers are clean
  - Containers are dirty
  - Colostrum is clean and free of debris or manure contamination
  - Colostrum is generally clean but some debris or particles are present
  - Colostrum is dirty – lots of debris, manure or dirt particles
  - Containers are well marked-cow ID and date collected
  - Containers are poorly labeled – inadequate information
  - Containers are not labeled
  - There are individual colostrum containers
  - Stored colostrum is less than 1 week old

**Colostrum Management – check those that apply**

- Check the boxes that apply:
  - Unobserved calvings occur on a regular basis, e.g. night time
  - Calves remain with dam for  $\geq 90$  minutes
  - Colostrum administration occurs  $\geq 4$  hours after calving
  - Fresh cows are milked  $\geq 6$  hours after calving
  - Calves do not routinely receive either 4 quarts (3 quarts for Jerseys, Ayrshires, Guernseys) of first milk colostrum or 1 package of colostrum replacer within 4 hours of **birth**



- Colostrum replacement or supplement are mixed in with colostrum
  - There is a shortage of colostrum from appropriate donors without a back-up supply of colostrum replacement product or frozen colostrum readily available
  - There is more than a 2-hour lapse between colostrum milking and either feeding or refrigeration of colostrum
  - Refrigerated colostrum is > 7 days, frozen colostrum is > 1 year or has been through more than 1 freeze-thaw cycle
  - Bacterial contamination of colostrum is excessive (total bacterial count > 1,000,000 cfu/ml and/or fecal coliform count > 10,000 cfu/ml)
  - Colostrum is routinely pooled
  - Fresh cow health is poor
  - Transition cow management (nutrition, group changes, bedding, density, vaccinations, medications) is a concern
- 
- Current feeding practices are accurately reflected in questionnaire
  - Milk and feed tags collected

Milk/Milk Replacer Information

For Pasteurized milk, what testing monitors function of pasteurizer or milk quality

- Bulk tank cultures
- Alkaline phosphatase testing
- No testing done
- Milk is pasteurized right after milking and stored until feeding
- Milk is pasteurized before feeding with pre-pasteurization storage

Milk replacer Information

Specific information of mixing:

Batch size \_\_\_\_\_

Powder level \_\_\_\_\_

Powder measured by volume or weight \_\_\_\_\_

Temperature at mixing \_\_\_\_\_

Cleaning, sanitizing protocol

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Milk/Milk replacer distribution (equipment and methods)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Milk/Milk replacer additives (not labeled on tag), amount and number of feedings

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Where are feed refusals dumped? \_\_\_\_\_

Is water in most calf buckets? \_\_\_\_\_

**Feeding Assessment**

Grading scale:

1. *Poor*
2. *Acceptable, but room for improvement*
3. *Very good but an opportunity to become excellent*
4. *Excellent*

Quality of feed \_\_\_\_\_

Cleanliness \_\_\_\_\_

Consistency of feed \_\_\_\_\_

Observation of feeding and appetite/attitude towards feed \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Housing and Bedding**

Calving Area

- Dimensions \_\_\_\_\_
- Individual or group pen \_\_\_\_\_
- Number of cows \_\_\_\_\_
- Length of stay of calving cows \_\_\_\_\_
- Bedding type \_\_\_\_\_
- Number of calves \_\_\_\_\_
- Number of standing calves \_\_\_\_\_
- Any calves nursing \_\_\_\_\_
- Other occupants of calving area \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Hygiene assessment

Grading scale:

1. *Poor*
2. *Acceptable, but room for improvement*
3. *Very good but an opportunity to become excellent*
4. *Excellent*



Bedding dryness \_\_\_\_\_  
 Bedding depth \_\_\_\_\_  
 Frequency of management \_\_\_\_\_  
 Stall dimensions \_\_\_\_\_  
 Occupants of stall \_\_\_\_\_  
 Calf removal time \_\_\_\_\_

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Calf Holding Area

- Dimensions of pen \_\_\_\_\_
- Individual or group pen \_\_\_\_\_
- Number of calves \_\_\_\_\_
- Length of stay \_\_\_\_\_
- Bedding type \_\_\_\_\_
- Other occupants \_\_\_\_\_

Hygiene assessment

Grading scale:

1. *Poor*
2. *Acceptable, but room for improvement*
3. *Very good but an opportunity to become excellent*
4. *Excellent*

Bedding dryness \_\_\_\_\_  
 Bedding depth \_\_\_\_\_  
 Frequency of management \_\_\_\_\_  
 Stall dimensions \_\_\_\_\_  
 Occupants of stall \_\_\_\_\_  
 Calf removal time \_\_\_\_\_

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Calf Housing Area

- Individual or group pens \_\_\_\_\_
- Dimensions of pen(s) \_\_\_\_\_
- Number of calves \_\_\_\_\_
- Total number of pens \_\_\_\_\_
- Number of empty pens to be cleaned \_\_\_\_\_
- Number of empty pens cleaned and ready \_\_\_\_\_
- Time between successive occupants \_\_\_\_\_



- Calf to calf contact \_\_\_\_\_
- Bedding type \_\_\_\_\_
- Calf nesting score \_\_\_\_\_  
 Scores: 1= calf on top of bedding with 4 legs exposed; 2= legs partially covered; 3= deep bedding with legs completely submerged in bedding
- Number of solid planes surrounding the calf \_\_\_\_\_  
 2=solid sides only  
 3=solid sides and either front or back panel is solid  
 4=solid sides with front, back or panel over top of pen
- Location of any standing water \_\_\_\_\_
- Commingled age groups (chronic sick calves, weaned calves, older heifers, adults – calving, sick or lame cows) – Circle all that apply
- Feed Refusals – where do they go?  
 Milk/milk replacer \_\_\_\_\_  
 Water \_\_\_\_\_  
 Starter \_\_\_\_\_

Hygiene assessment

Grading scale:

1. *Poor*
2. *Acceptable, but room for improvement*
3. *Very good but an opportunity to become excellent*
4. *Excellent*

- Bedding dryness \_\_\_\_\_
- Bedding depth \_\_\_\_\_
- Frequency of management \_\_\_\_\_
- Stall dimensions \_\_\_\_\_
- Calf activity level or responsiveness \_\_\_\_\_

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Barn ventilation

- Full assessment performed
- Diagram system
- Pictures of barn and pens
- Aerosolized bacterial counts done



**Protocol Reviews**

Dehorning time \_\_\_\_\_  
 Dehorning procedure \_\_\_\_\_  
 Pen changes after 48 hours \_\_\_\_\_  
 Feed changes after 48 hours \_\_\_\_\_

Medications or products in calf area that are not accounted for in vaccination or treatment protocols

<u>Product</u>	<u>Amount</u>	<u>How Often</u>	<u># of Days</u>	<u>Route</u>
_____				
_____				
_____				
_____				

**Diagnostic Tests and Analysis**

Test of passive transfer  
 Calves  $\leq$  1 week of age and more than 6 hours since colostrum administered; desired sample size  $\geq$  12.

<b>Calf Identification</b>	<b>Birth date/Age</b>	<b>[Total Protein]</b>	<b>Other IgG test</b>

\_\_\_\_\_ % < 5.5 g/dl (Goal < 20% < 5.5 gm/dl; more than 33% < 5.5 gm/dl is a problem)

**Colostrum Testing**

- Colostrum sample
- Bulk tank culture
  - *Salmonella spp.* culture



**Colostrum Culture Results**

COUNT (CFU/ML)					GOALS
Total bacteria					<100,000
Fecal coliforms					<10,000
Other gram neg					<50,000
<i>Strep. non-ag</i>					<50,000
Coag neg <i>Staph.</i>					<50,000
Other					<5,000

Calf Health Scoring Chart – if more than 80 calves, score at least 25% of the calves; for groups < 20 calves, score all calves. For calf groups between 20 and 80, score at least 20 calves.

Calf Respiratory Scoring Chart – used for respiratory disease investigations. Score at least 20 calves (as described above).

Disease Detection rate calculation (% of abnormal calves that have been identified and/or treated)

- Diarrhea – abnormal calves have score 2 or 3  
Percent detected \_\_\_\_\_ (Goal is 85%)
- Respiratory – abnormal calves score 5 or greater  
Percent detected \_\_\_\_\_ (Goal is 85%)

Fecal Examination – select calves that are within 2-3 days of typical day of onset of diarrhea; desired sample size is 6

Animal ID	Age or date of birth	Fecal Score	EM for Virus	Smear for <i>C. parvum</i>	<i>Salmonella</i> culture	If previously identified or treated (✓)





- Fecal score: 0 – Normal  
 1 – Semi-formed, pasty  
 2 – Loose but with enough consistency to stay on bedding  
 3 – Watery

**Milk Replacer**

- Bulk tank culture
- *Salmonella spp.* Culture
- Sodium concentration
- Osmolality

**Milk Replacer Analysis**

COUNT (CFU/ML)	SAMPLE 1	SAMPLE 2	GOALS
Total bacteria			<10,000
Fecal coliforms			0
Other gram neg			<5,000
<i>Strep. non-ag</i>			<5,000
Coag neg <i>Staph.</i>			<5,000
Other bacteria			<5,000
Sodium (mEq/L)			< 120
Osmolality (mOsm/kg)			< 600

**Oral Electrolyte solution**

- Sodium concentration
- Osmolality



**Respiratory Samples:** Desired sample size is 6-8 untreated calves within problem age group

CALF ID	AGE OR DOB	NASAL SWAB	BAL FLUID

**Environmental samples:**

Environmental swabs (list sources such as pails, esophageal feeders)

Other materials such as bedding or feed (please list sources):

Facilities pictures/sketches of barns and pen layouts

**Environmental Samples**

SAMPLE LOCATION	COLIFORMS	SALMONELLA SPECIES	TOTAL (CFU/ML)
Goal for clean pen	< 1,000		< 5,000
Goal for occupied pen	< 500,000		< 2,000,000