# 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:**

____________________________________________________

____________________________________________________

____________________________________________________

**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
<table>
<thead>
<tr>
<th>Bedding dryness</th>
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<tbody>
<tr>
<td>Bedding depth</td>
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<tr>
<td>Frequency of management</td>
<td></td>
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<tr>
<td>Stall dimensions</td>
<td></td>
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<tr>
<td>Occupants of stall</td>
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<tr>
<td>Calf removal time</td>
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<td>Comments:</td>
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<table>
<thead>
<tr>
<th>Calf Holding Area</th>
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<tbody>
<tr>
<td>Dimensions of pen</td>
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<tr>
<td>Individual or group pen</td>
</tr>
<tr>
<td>Number of calves</td>
</tr>
<tr>
<td>Length of stay</td>
</tr>
<tr>
<td>Bedding type</td>
</tr>
<tr>
<td>Other occupants</td>
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</tbody>
</table>

Hygiene assessment

*Grading scale:*

1. Poor
2. Acceptable, but room for improvement
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4. Excellent

<table>
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<td>Stall dimensions</td>
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<td>Calf removal time</td>
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<td>Comments:</td>
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<table>
<thead>
<tr>
<th>Calf Housing Area</th>
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<tbody>
<tr>
<td>Individual or group pens</td>
</tr>
<tr>
<td>Dimensions of pen(s)</td>
</tr>
<tr>
<td>Number of calves</td>
</tr>
<tr>
<td>Total number of pens</td>
</tr>
<tr>
<td>Number of empty pens to be cleaned</td>
</tr>
<tr>
<td>Number of empty pens cleaned and ready</td>
</tr>
<tr>
<td>Time between successive occupants</td>
</tr>
</tbody>
</table>
☐ 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

<table>
<thead>
<tr>
<th>Product</th>
<th>Amount</th>
<th>How Often</th>
<th># of Days</th>
<th>Route</th>
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Diagnostic Tests and Analysis

Test of passive transfer
Calves ≤ 1 week of age and more than 6 hours since colostrum administered; desired sample size ≥ 12.

<table>
<thead>
<tr>
<th>Calf Identification</th>
<th>Birth date/Age</th>
<th>[Total Protein]</th>
<th>Other IgG test</th>
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<tbody>
<tr>
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_______ % < 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

<table>
<thead>
<tr>
<th>COUNT (CFU/ML)</th>
<th>GOALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total bacteria</td>
<td>&lt;100,000</td>
</tr>
<tr>
<td>Fecal coliforms</td>
<td>&lt;10,000</td>
</tr>
<tr>
<td>Other gram neg</td>
<td>&lt;50,000</td>
</tr>
<tr>
<td>Strep. non-ag</td>
<td>&lt;50,000</td>
</tr>
<tr>
<td>Coag neg Staph.</td>
<td>&lt;50,000</td>
</tr>
<tr>
<td>Other</td>
<td>&lt;5,000</td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th>COUNT (CFU/ML)</th>
<th>SAMPLE 1</th>
<th>SAMPLE 2</th>
<th>GOALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total bacteria</td>
<td></td>
<td>&lt;10,000</td>
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</tr>
<tr>
<td>Fecal coliforms</td>
<td></td>
<td>0</td>
<td></td>
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<tr>
<td>Other gram neg</td>
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<td>&lt;5,000</td>
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<tr>
<td><em>Strep. non-ag</em></td>
<td></td>
<td>&lt;5,000</td>
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<tr>
<td>Coag neg <em>Staph.</em></td>
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<td>&lt;5,000</td>
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<tr>
<td>Other bacteria</td>
<td></td>
<td>&lt;5,000</td>
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<tr>
<td>Sodium (mEq/L)</td>
<td></td>
<td>&lt;120</td>
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<tr>
<td>Osmolality (mOsm/kg)</td>
<td>&lt;600</td>
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Oral Electrolyte solution
- Sodium concentration
- Osmolality
**Respiratory Samples:** Desired sample size is 6-8 untreated calves within problem age group

<table>
<thead>
<tr>
<th>CALF ID</th>
<th>AGE OR DOB</th>
<th>NASAL SWAB</th>
<th>BAL FLUID</th>
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<tbody>
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**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**

<table>
<thead>
<tr>
<th>SAMPLE LOCATION</th>
<th>COLIFORMS</th>
<th>SALMONELLA SPECIES</th>
<th>TOTAL (CFU/ML)</th>
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<tbody>
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<tr>
<td>Goal for clean pen</td>
<td>&lt; 1,000</td>
<td></td>
<td>&lt; 5,000</td>
</tr>
<tr>
<td>Goal for occupied pen</td>
<td>&lt; 500,000</td>
<td></td>
<td>&lt; 2,000,000</td>
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