

# A Plan for Investigating Dairy Calf Health Problems

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## A. Records analysis

Calf numbers, twinning rate, stillbirth rate and risk factors.

Calculate morbidity and mortality rates for previous year and the most recent 3 months.

Identify the population at risk and day of onset by a review of calf health records. Look for repeat episodes.

## B. Colostrum and Feeding

Colostrum protocols – collection, volume administered, method of administration, timing, donor requirements, storage, number of feedings, testing, replacement products, supplements

Feeding – liquid (milk and water) and solids, timing, volume, products, additives, methods, feeders, cleaning

Collect and reconcile feed labels

## C. Housing and Bedding

Maternity pen – bedding management, other occupants, calf removal time

Newborn holding/drying area – bedding, length of stay, occupants

Calf housing – number of calves at maximum occupancy, number of pens, pen dimensions, number of solid sides around calf, bedding management, disinfectants, filling order, barn ventilation, pen microenvironments

Bedding nesting and hygiene scores

## D. Protocol Review

Record routine procedures for calves, timing, and differences for bull and heifer calves

Herd vaccination protocol

Calf treatment protocols – diarrhea, respiratory, navel infections, others

Inventory of medicines, vaccines and additives

## E. Diagnostic Tests and Data Analysis

Calf procedures – IgG/total protein testing, calf health scores, fecal samples, nasal swabs, BAL testing, growth determinants

Feeding equipment swabs for fecal coliforms

Colostrum – bulk tank culture, milk [replacer] bulk tank culture, sodium, osmolality

NRC evaluation of milk replacer for protein/energy requirements

Bedding sample *Salmonella* culture and bacterial counts, aerosolized bacterial counts

## F. Make a Problem List

## G. Problem Assessment and Plan

## H. Recommendations