WASHINGTON STATE UNIVERSITY
VETERINARY MEDICINE EXTENSION

ag animal health *spotlight*
VETERINARY MEDICINE EXTENSION
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WASHINGTON STATE UNIVERSITY EXTENSION & WSU COLLEGE OF VETERINARY MEDICINE

Calf Care Audit Form

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Milk Replacer

- Review MR tags for quality ingredients (save label or take picture)
  - Protein : Fat (e.g. 22:20): _____
  - Review mixing instructions (include quantities):

- Nutrients Fed (NRC program, download at http://www.nap.edu/catalog/dairymodel/)
- Energy Allowable Gain: _____
- Protein Allowable Gain: _____
  - Describe mixing process on farm:

  - Temperature as mixed: _____
- Feeding Hygiene – Luminometer readings for:
  - Bottles/nipples: _____
  - Buckets: _____
  - Transfer hose: _____
  - Tube feeder: _____
  - Mix tank: _____
  - Feeding Method (e.g. Bottles, Buckets): _____
  - Quantity Fed: _____
  - Color/Odor of mix to be fed: _____
- Samples from first 3 calves fed for Brix and temperature

Brix	Total Solids*	Temperature

- Samples from last 3 calves fed for Brix and temperature

Brix	Total Solids*	Temperature

**Digital refractometer: total solids = Brix + 1; Optical refractometer:total solids = Brix + 1.5*

- Save back 3 samples for osmolality testing and culture of as fed mix

Notes on milk replacer feeding:

Milk

- Record sources:

- Nutrients Fed (NRC program, download at http://www.nap.edu/catalog/dairymodel/)
  - Energy Allowable Gain: _____
  - Protein Allowable Gain: _____
- If Pasteurizing:
  - Check times and temperatures for pasteurizer
  - Time: _____ Temperature: _____
- Pre-pasteurization sample for Petrifilm: _____ CFU/ml
- Post-pasteurization sample for Petrifilm: _____ CFU/ml
- Feeding Hygiene – Luminometer readings for:
- Bottles/nipples: _____
- Buckets: _____
- Transfer hose: _____
- Tube feeder: _____
- Mix tank: _____
  - Review protocols:

- Feeding Method (e.g. Bottles, Buckets): _____
- Quantity Fed: _____
- Evaluate milk fed with Brix*
  - Samples from first 3 calves fed for Brix and temperature

Brix	Total Solids*	Temperature

  - Samples from last 3 calves fed for Brix and temperature

Brix	Total Solids*	Temperature

**Total Solids = Brix + 2*

Notes:

Starter Feeding

- Review protocols:

- Consumption assessment (2 lbs/day before weaning?): _____
- Nutrients analysis (save label):

- Moisture (check 10 buckets with soil moisture tester):
  - 1:_____ 2:_____ 3:_____ 4:_____ 5:_____
    6:_____ 7:_____ 8:_____ 9:_____10:_____
  - # wet: _____ # dry: _____

- **Is grain dusty/moldy?: _____**
- **Process of refilling buckets:**

- **Bucket placement (can they drip water onto their grain?):**

- **Is Forage Available? How much? _____**

Notes on Starter Grain:

Water
- **Protocol for cleaning/filling water buckets:**

- **Available to all calves? _____**
- **Available continuously throughout the day? _____**
- **Are buckets full? _____**
- **Is the water clean? _____**

Notes on Water:

Housing Environment
- **Type of Housing (barn, hutch, etc.): _____**
- **Space available**
  - **Measure ft^2/calf: _____**
- **Is nose-to-nose contact possible? _____**
- **Describe cleaning process between calves:**

- **Ventilation**
  - **Anemometer Readings of 5 Hutches/Pens**
    - **1st _____ 2nd _____ 3rd _____ 4th _____ 5th _____**
  - **Smoke Stick observations:**

  - **Ventilation Notes:**

- **Bedding**
  - **Type of bedding: _____**
  - **Moisture (check 10 pens with soil moisture tester)**
    - **1:_____ 2:_____ 3:_____ 4:_____ 5:_____**
      6:_____ 7:_____ 8:_____ 9:_____ 10:_____
    - **# wet: _____ # dry: _____**

- Cleanliness:

- Bedding Notes:

- Heat/Cold stress (Season _____)
  - HOBO in hutch
    - Monitor and Location:
      - Time Started:
      - Time Stopped:
    - Monitor and Location:
      - Time Started:
      - Time Stopped:

  - Summer:
    - Respiratory Rate (% Panting): _____
  - Winter
    - Nesting Scores:
  - Methods in place to prevent heat/cold stress?

- Fly control:

Notes on Housing/Environment:

Maternity Barn:

- Review protocols for calving management:

- Observations of calving assistance:

- Time before calf removed from cow: _____
- Calving ease scoresheet to leave with maternity crew (Appendix A) if records not kept
- Timing of calving events -- eCalving -- http://www.ecalving.com/ecalving/site/#hero

Notes on Calving Management:

Colostrum:

- **Timing of colostrum harvest after calving- review protocols:**

- **Udder prep before harvest – [Swab teat ends post-cleaning for luminometer readings]**
  - **1st _____ 2nd _____ 3rd _____**
- **Swab colostrum harvest containers before harvest – 3 readings**
  - **1st _____ 2nd _____ 3rd _____**
- **Review storage procedures**
  - **Refrigeration/Freezing:**
  - **Time stored before use (check dates):**
  - **Thawing/reheating protocols:**

- **Check temperature of refrigerator – (HOBO or thermometer): _____**
- **Time of colostrum feeding after birth:**

- **Quantity of colostrum fed: _____**
- **Method of Feeding (e.g. Bottle, Esophageal Feeder): _____**
- **Swab esophageal feeder (luminometer): _____**
- **Swab colostrum collection bucket: _____**
- **Collect Colostrum Samples (to be fed) for PetriFilm: _____**
- **Brix readings of colostrum samples – to be fed (>22 Brix is good quality)**
  - **1st _____ 2nd _____ 3rd _____**

Processing/Transport to Calf Housing:

- **Review Protocols:**
- **Describe Method of Transport:**
- **Umbilical Care: _____**

Notes:

Office

- **Print calf report (DC305 – calf events table), (DHI-Plus -- Cohort analysis of DOA;s, %twins, Male, Female**
  - **Baseline DOAs (<10%? Heifers? Cows?)**
- **Mortality Data**
  - **Last month's mortality**
  - **_____# deads / _____# calf days at risk = _____**

- **Morbidity Data**
  - **Last month's incidence of diarrhea**
  - **_____ # new cases / _____# calf days at risk = _____**
  - **Last month's incidence of respiratory disease**
  - **_____ # new cases / _____# calf days at risk = _____**

- **Age at weaning: _____**

Failure of Passive Transfer
[*If the farm is already collecting serum total proteins, evaluate and calibrate their refractometer if needed and review reports.]

- **Calves on Day 2 to 7**
  - **Collect Blood for Serum Total Protein – Prevalence of failures:**

Calf ID	Birthdate	Brix	Serum TP	FPT? Y/N	Colostrum Fed By:

Brix	TP	Passive Transfer Status
10.9	7.5	Success
10.4	7.0	
9.7	6.5	
9.1	6.0	
8.4	5.5	
7.8	5.0	Failure
7.2	4.5	
6.6	4.0	
5.9	3.5	

Prevalence of Failures = _____

Notes on Passive Transfer:

Average Daily Gain

- **Birth weights of youngest calves (records if available)**

Calf ID	DOB or Age	Weight	Calf ID	DOB or Age	Weight

- **Weights of calves to be weaned (weight tape, scale, or records if available). To estimate mean weaning weight with Std Dev of 10 and precision of 5 lbs, weigh a total of 16 calves**

Calf ID	DOB or Age	Weight	Calf ID	DOB or Age	Weight

Average Age at Weaning = _____ **Average of weaning weights = _____**

Average of birth weights = _____ **Average of the ADG* = _____**

* $\frac{Average\ weaning\ weight - Average\ Birth\ Weight}{Average\ Age\ at\ Weaning}$

Appendix A

Calving Assistance Scoresheet – Calf Information in Maternity

Cow ID	Calf ID	Birth Date	Birth Weight	Calf Sex	Calving Ease Score	Cow BCS	Notes

Calving Ease scores – 1 (nothing), 2 (some assistance), 3 (major assistance) or 0 (not reported), 1 (nothing), 2 (minor problem), 4 (considerable force), 5 (very difficult) (National DHIA system)

Appendix B

Calf Care Audit
List of Tools from A to Z

Anemometer

Blood tubes for serum

Brix refractometer

Cooler

Digital thermometer (to measure fed milk temperature)

Luminometer and swabs

Milk tubes for colostrum and milk samples

Moisture tester

NRC-Dairy Download

PetriFilm for Aerobic and Coliform counts

Pipettes and pipette tips (200 µL, 1 mL)

Portable incubator

Smoker sticks and bulb

Temperature/Humidity data logger

Tube racks

Transfer pipettes

Weight tape for calves / Height stick