Gizmos or Gadgets??

How to Keep your Calf Program Successful

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Three Goals for Raising Calves

- Calves Alive (mortality)

- Calves Healthy (morbidity)

- Calves Growing (Performance)

General Goals Are of Little Value – Be Specific

DCHA Gold Standard I
Calf Mortality

- Mortality
  - 24 hours to 60 days of age: < 5%
  - 61 – 120 days: < 2%
  - 121 – 180 days: < 1%

Mortality Reduction:
Gizmo #1 - The Smart Phone

- Every Dead Calf Needs a Post Mortem

- Ha   en a
  de
- Ta   e ear tag
  of

Focus on four things

- Look at the lungs: Is there pneumonia?
- Look at the umbilical cord?
  - Is there a navel infection?
- Look at the kidneys?
  - Is there fat present? Nutritional implications?
- Look at the intestinal tract.
  - Are there black or discolored parts present?

Keep a Record of Death Loss and Reasons Why
- Scours? Pneumonia? Septicemia? Broken Leg?

DCHA Gold Standard I
Calf Morbidity

- Scours Morbidity (requires scours treatment >24 hours):
  - 24 hours to 60 days of age: < 25%
  - 61 – 120 days: < 2%
  - 121 – 180 days: < 1%
- Respiratory Morbidity (requires injectable antibiotic):
  - 24 hours to 60 days of age: < 10%
  - 61 – 120 days: < 15%
  - 121 – 180 days: < 2%

Morbidity Reduction
Focus on Immunity - Colostrum

- Gizmo Number 2 : Colostrometer
  - Temperature Dependent
  - Must be properly mixed to be accurate
  - At least a reading of 50 on the colostrometer scale for it to be considered of good quality
  - Accuracy is questionable.

- Record the number of quality on the colostrum container for future reference.

Morbidity Reduction
Focus on Immunity - Colostrum

- Gizmo Number 3 : Brix Refractometer
  - Must be properly mixed to be accurate
  - At least a reading of 22 to be considered of good quality
  - Accuracy is better than a colostrometer
  - Be sure to zero the instrument

- Record the number of quality on the colostrum container for future reference.

Morbidity Reduction
Focus on Immunity – Passive Transfer

- Gizmo Number 4 : Clinical Refractometer
  - Requires a serum sample that is clear and free of hemolysis
  - Collect sample between 24 – 48 hours of age
  - Centrifuge is preferred method but you can clot the blood and "pull the clot".
    - Requires a red top tube to do this.
  - Place a drop of the clear serum on the window and get a reading.
    - Hoping for numbers of >5.0
    - Guidelines vary but shoot for 90% of animals > 5.5
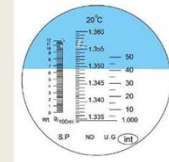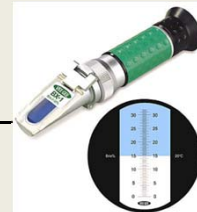 - Be sure to zero the instrument

Pulling Blood Samples
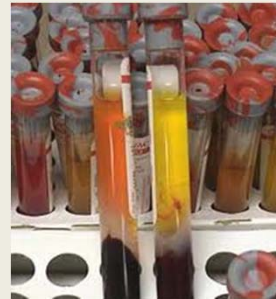
Clinical Refractometers

- Optical Versions
  - Price – usually less expensive
  - Size of Display for serum protein is important
  - Scale is from 1 – 10 /12 for serum protein

- Digital Versions
  - Price – usually more expensive
  - Number of scales. Often Brix and Serum Proteins on the same machine.

BRIX for Serum Protein Readings

$y = 5919.1x - 7946.1$
$R^2 = 0.73$

Serum IgG (mg/mL) vs Refractive index (nD)

Morrill, JDS 2013
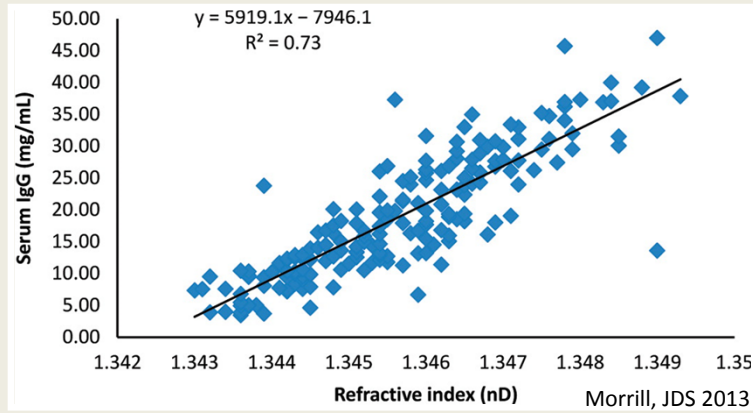
Cut Point for FPT = 7.8% on the BRIX Scale

Morbidity Reduction
Focus on Cleanliness – Collect Samples

- Gizmo Number 5 – Sterile Sample Bottle
  - Use to collect samples of colostrum
    - From end of tube or nipple
    - Goal:
      - < 100,000 cfu / ml
  - Use to collect samples of milk
    - From end of nipple or from pail they drink out of
    - Goal:
      - < 20,000 cfu / ml

Expectations for Calf Performance

DCHA Gold Standard I

- Calf Growth Rates:
  - 24 hours to 60 days of age:
    - Double Birth Weight
      - » Ex: 90 pound calf = 180 pounds at 60 days
      - » 90 pounds / 60 days = 1.5 pounds / calf / day
  - 61 – 120 days:
    - 2.2 pounds / calf / day average gain
      - » 180 pound calf at 60 days + 132 pounds gain
      - » 312 pound calf at 4 months of age
  - 121 – 180 days:
    - 2.0 pounds / calf / day average gain
      - » 312 pound calf at 4 months + 120 pounds gain
      - » 432 pound calf at 6 months of age

Calf Performance

Focus on Average Daily Gain – Will need weights

- Gizmo Number 6 – A Scale
  - Weight Tape is an option but not a good one.
  - Individual Scale is best
  - Group weights are acceptable if always done the same way over time.
  - Must know birth dates to make this work well.
  - Always will go back to average daily gain.

Final Thought - Records

- What are you going to use this data for?
- Do you have data or information?
- Does your Vet/Nutritionist have access?
- If you want to improve – INFORMATION is NEEDED

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- Set up a yearly or semi yearly meeting to review it

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Do you really know your numbers?

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Thanks for your Time