**Caring for the Pre-Fresh Heifer**

Vaccination and Care Strategies from the Womb to the Parlor

**Kicking the Calves**

- Improperly trained personnel
  - Hazardous
  - Shortcuts
  - Protocols not followed.
- Poorly designed facilities
  - Poor animal health
  - Poor working conditions

**Start's with the Dry Cow**

- Nutrition
- Housing
- Vaccination
- Maternity pen

**Nutrition**

- Vitamin A
  - Known to prevent premature, weak and stillborn calves and retained placenta.
  - 100,000 IU/day orally.
  - IM injection at dry-off.
- Vitamin E / Selenium
  - Vitamin E: 1000 IU/day
  - Selenium: 3 mg/day

**Housing** (Nigel B. Cook, BVSc, MRCVS)

- At least one stall per cow
- At least 30 inches of bunk space per cow for pre-and post-fresh pens
- At least 24 inches of bunk space per cow for far-dry cows and heifers
- At least 120 square feet of bedded area per cow in calving pens
**Maternity Pen**

- Clean and dry.
- Bedded area at least 12 X 12.
- Short duration of stay.
- Straw changed with each cow.
- Minimize movement.

**Dry Cow Vaccination**

- Calf health
  - ScourGuard 4® (K)/C (Pfizer)
  - Guardian Vaccine (Schering-Plough)
    - *Clostridium perfringens* Type C
    - *Escherichia coli* (E. coli) K99
    - Rotavirus
    - Coronavirus

**Timing**

- 8 weeks prior to calving
  - IgG concentrated in colostrum 5-2 weeks pre-calving.
  - Close-up dose will give little protection.

**4-4-4 Rule**

- Milk the cow within 4 hours of calving.
- Feed the calf 4 quarts of colostrum.
- Feed the calf within 4 hours of birth.
  - Allow calf to feed to appetite.
  - Esophageal tube the remainder.
  - Feed 2-3 quarts colostrum at next feeding.

**Failure of Passive Transfer**

- Calf did not receive colostrum.
- Calf did not receive enough colostrum.
- Calf did not absorb colostrum.
  - i.e. small feedings over time/
- Poor quality colostrum
  - First calf heifers
  - Leaking before freshening

**Colostrum Absorption**
**Total Protein**

- < 4.5 = no colostrum
- 4.5-4.9 = inadequate
- 5.0-5.2 = poor
- 5.3-5.4 = borderline
- 5.5-7.0 = acceptable
- > 7.0 = dehydration likely

**Colostrum’s Value**

- What is colostrum worth per gallon?
  - $423
- Effect on 304 ME
  - Dramatic difference between 4 or 2 quarts.
  - Affects first two lactations.

**Vaccination**

- Key Point
  - Three modified live vaccine doses prior to breeding.
    - BVD, IBR, BRSV
  - Third dose three weeks prior to breeding pen.
    - Safe
    - Helps prevent BVD viremia.

**Health Goals**

- Scours protection
  - E. Coli, Rota-corona virus
  - Clostridium perfringens type C
- 4-way viral protection
  - (IBR, BVD, BRSV, PI3)

**Health Goals**

- 5 way Lepto

- Pasteurella disease (pneumonia) protection

- Clostridial disease

**Timing**

- Intra-nasal first week of life.
  - TSV-2
  - Onset 5
- Booster shot at weaning
  - Pyramid
  - Bovishield
  - Vista or Onset 5
- Booster 3 weeks pre-breeding
Other Vaccination opportunities

- New arrivals
  - Much learned from beef industry.
  - Animals shipped over 3 hours can have severe immune suppression.
  - Full recovery may take up to three weeks
  - Best time to vaccinate
    - 12-24 hours post arrival.
    - Best protection and least sickness.

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- Pre-weaning
  - Prepare for grouping of calves.

- Pre-shipping
  - Precondition animal for shipping stress.
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Pre-fresh Vaccinations

- Modified Live Vaccines
  - Use only if heifers received two doses pre-breeding.
  - Otherwise use killed vaccine.

- Scours Protection
  - Guardian or ScourGard 4K/C
  - Will need 2 doses.
  - 2nd dose 5-6 weeks pre-fresh.

Pre-fresh Vaccinations

- Optional Vaccines
  - 7-way clostridials
  - Salmonella
    - SRP
  - J-5 or J-Vac

- Parasite control
  - Injectable dewormers.

Pre-fresh Udder Care

- Signs of pre-fresh mastitis
  - Overly enlarged quarters.
  - Watery discharge
    - Normal pre-colostrum serum is honey-like.
  - Blind, non-functional quarters
  - SCC > 250,000 at first test.
  - > 5% clinical mastitis.
**Pre-fresh Udder Care**

- Sources of infection
  - Pre-weaned calves grouped.
  - Allowed to suckle on another
  - Feeding unpasteurized milk.
  - Flies
  - Teat injuries
  - Contaminated bedding
  - Most common from breeding to freshening.

**Udder care Options**

- Culture and sensitivity
- Dry cow treatment tubes
- Orbeseal
- Lactating mastitis tubes
- Extra label use
  - Need written protocol with your veterinarian.
  - Written records kept.

**Udder care Options**

- Use only commercially available, sterile, single use products.
- Tilt table?
- Partial insertion
- Test for residues

**Pre-fresh Mastitis Prevention**

- Housing
  - Under-populated
  - Sufficient bunk space
  - Clean, dry bedding
  - If possible, separate from adult cows
  - Fly control
- Maternity pen management
  - Proper harvest of colostrum

**Disease Management**

- Frequent observation
  - Identify sick animals early
  - Regularly evaluate treatment protocols
  - Isolate when able
  - Train and retrain personnel
  - Evaluate the results
    - How are they doing in their 1st lactation?
    - Answer: GREAT!

**Summary**

- Starts with the dry cow.
- Well managed facilities.
- Well trained people.
- Regular evaluations of protocols.
- Judicious use of biologicals and pharmaceuticals.
References

- John Kirk, Veterinary Medicine Extension, School of Veterinary Medicine University of California Davis
- Nigel B. Cook, BVSc, MRCVS, etal