

Caring for the Pre-Fresh Heifer

Vaccination and Care Strategies from the Womb to the Parlor

What's wrong with this picture?



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.

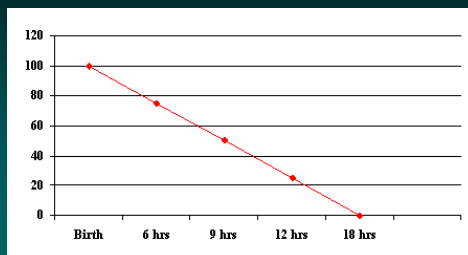
4-4-4 Rule

- 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.

Other Vaccination opportunities

- Pre-weaning
 - Prepare for grouping of calves.
- Pre-shipping
 - Precondition animal for shipping stress.
 - Some use long acting antibiotics.

Other Vaccination opportunities

- In disease outbreak.
 - Intranasal only (*Onset 5 IN*)
 - Long acting antibiotics
- Common age at disease outbreak.
 - Vaccinate 3 weeks prior.

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