

CALVING EASE

July 2011

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Disinfecting to Improve Calf Health: Part 2

Summary:

Part 1: Make disinfection part of your biosecurity program.

Clean first, then disinfect.

Part 2: Choose an efficient disinfectant

Get your moneys worth from the disinfectant

Cleaning did part of the job

The purpose of disinfection is to lower livestock exposure to pathogens. When we clean our pens, hutches and feeding equipment we remove most of the bacteria, viruses and parasites. Many detergents used for cleaning act as bactericides or bacteriostats as well as cleaners. [Remember that the ending “cide” means that pathogens are killed, the ending “stat” means that the pathogen’s growth is inhibited or prevented.]

Choosing an efficient disinfectant

Look down this list of potential bacteria, parasites and viruses. Note that the ones at the top of the list are most susceptible to disinfectants. Ones at the bottom of the list are most resistant.

- Mycoplasma
- Gram-positive bacteria (Staph. and Strep.)
- Gram-negative bacteria (E. coli, pneumonia-causing bacteria like Pasteurella)
- Enveloped viruses (Coronavirus)
- Non-enveloped virus (Rotavirus)
- Fungal spores
- Foot and mouth disease virus
- Bacterial spores (Clostridial bacteria)
- Coccidia
- Prions (BSE)

Generally to reduce pathogen exposure and improve calf health:

- In nearly all calf housing we can confidently predict the presence of at least E. coli and Pasteurella bacteria and coccidia. These pathogens suggest the use of a disinfectant with a general purpose or broad-spectrum label claim

- For feeding equipment following best management practices that include a chlorinated detergent and/or chlorine rinse may adequately reduce exposure to scours-causing pathogens.

Where significant numbers of calves are involved in a disease outbreak it is best to work with the herd veterinarian to evaluate the best alternatives for disinfecting. A comprehensive summary of the antimicrobial spectrum of disinfectants may be found at <http://www.cfsph.iastate.edu/Disinfection/index.php>. The same resource has a summary table of the characteristics of selected disinfectants (advantages, disadvantages, effectiveness against selected pathogens). Remember when choosing based on cost read carefully the mixing instructions and coverage. For housing make your comparison based on square foot of coverage, not per ounce of concentrated disinfectant. For feeding equipment that can be soaked make the comparison based on a given volume of solution.

Get your moneys worth from the disinfectant

1. Clean, clean, clean and clean some more.
2. Mix correctly. Some products will have different dilution rates depending on what you expect to accomplish. Most important, do not over-dilute. Overly diluted disinfectants may be ineffective making a waste of both your time and money. Check the product label for limitations due to water hardness and pH.
3. Application to housing may call for “soaking.” That means applying enough product until you begin to see liquid running down the equipment or pen. With feeding equipment “soaking” means complete immersion in the disinfectant solution. Do not expect to “soak” away pathogens on feeding equipment that is not clean. Biofilms too thin to see may increase resistance to certain disinfectants as much as 1000 times compared to clean surfaces. For example, soaking either a nursing bottle or colostrum collection milker bucket with a strong bleach solution for 24 hours may be infective in killing bacteria. Why? Because biofilms of protein and milk sugars buffer the disinfectants. Clean – then disinfect.
4. Contact time is usually specified on the product label. Recommended contact time will vary from product to product. Also, expect contact times to vary depending on the microorganism. When soaking housing equipment and pens remember contact time means how long the surfaces remain wet. When soaking feeding equipment contact times means how long the pieces were immersed in the solution.
5. Precautionary Statements – follow them. Be sure that safety comes first.

If you know of someone that doesn't currently receive Calving Ease but would like to, tell them to **WRITE** to Calving Ease, 11047 River Road, Pavilion, NY 14525 or to **CALL** 585-591-2660 (Attica Vet Assoc. office) or **FAX** (585-591-2898) or **e-mail** calvingease@rochester.rr.com with Subscribe as the subject. Back issues may be accessed on the Internet at either www.atticacows.com or www.calfnotes.com and clicking on the link, Calving Ease.

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