

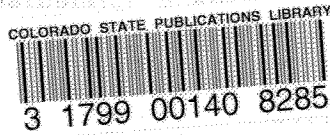
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# Calf diarrhea— its prevention

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no. 8.006

## Quick Facts

- Diarrhea occurs if a calf's exposure to disease exceeds its resistance to the disease.
- Prevention of calf diarrhea occurs when exposure is decreased and resistance increased.
- Exposure to disease can be decreased by calving and raising animals in clean areas; dairy calves should be separated from one another until weaning.
- The major factor in increasing a calf's resistance to disease is to give it the first milking colostrum from the cow as soon as possible after birth.
- Vitamin A injections to the newborn calf may be helpful to increasing resistance to diarrhea and pneumonia.
- If salmonellosis, enterotoxemia, reovirus or coronavirus I are the cause of diarrhea, vaccination of calves may be helpful.
- Scour pills should not be given to calves for prevention of diarrhea.

Whether diarrhea or any other disease occurs depends on the balance between an animal's resistance or immunity and the disease exposure the animal is subjected to. If disease exposure is minimal, a calf may get by with minimal disease resistance. If the calf is exposed to disease-producing organisms in large numbers or those that are quite virulent, maximum resistance is necessary. Thus, if disease occurs, or, preferably, to prevent it from occurring, the disease exposure should be decreased and the maximum resistance possible insured.

## Decreasing Exposure to Disease

If confined calving is a practice and if it is possible after calving and before nursing, the cow's udder should be cleansed and disinfected. Also, the calf's naval should be disinfected by soaking it for one or two minutes in a mild iodine solution (2-3% iodine).

If calving occurs under a confined situation and diarrhea becomes a problem, moving the

cows to a clean pasture for calving is recommended and often is quite helpful in preventing diarrhea. If this is not possible, cows should be placed in clean, dry, individual box stalls for calving. As soon as possible following calving, the cow and calf should be moved to clean pasture. Calving should not take place in corrals nor should cows with calves be kept in or around corrals.

If, as in a dairy operation, calves are to be raised by hand, they should be kept separate from one another until weaning. Leashing calves to hutches with one open side (i.e., similar to tying a dog to a doghouse) works satisfactorily. Before the calf is placed in a hutch, however, the hutch should be washed and disinfected thoroughly and moved to new clean ground. Sunlight and dryness then will disinfect the previous location.

## Increasing Resistance to Disease

Cows should be well fed so that they are in good condition at calving time. Underfeeding cows during pregnancy may decrease calves' resistance to disease resulting in an increased incidence and severity of calf diarrhea.

If either salmonellosis or enterotoxemia is or has been a problem in the area or the herd, the cows and calves should be vaccinated. (See Service in Action sheet 8.004, Calf diarrhea—its causes.)

Giving a 1/2-milliliter injection of vitamin A to a calf at birth is a good practice, since, regardless of the cow's vitamin A level, the calf will be deficient. Vitamin A is necessary for maintaining the lining of the intestinal and respiratory tracts. An animal deficient in the vitamin has decreased resistance to diarrhea and pneumonia.

By far the most important procedure in increasing the calf's resistance to disease is to insure that ample quantities of good colostrum are received as soon as possible after birth. Colostrum contains antibodies that are necessary for the calf's resistance against all infectious diseases.

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The calf's ability to absorb these antibodies and thus obtain the protection they provide, however, begins to decrease immediately following birth. By 24 hours of age, the calf is no longer able to absorb these antibodies.

For maximum protection and resistance to disease, a calf should receive two to three quarts (2 to 3 liters) of first milking colostrum immediately following birth. Leaving the calf with the cow, even when well mothered, does not insure that this will occur. To insure that it does, this quantity of colostrum should be milked from the cow immediately following calving and given to the calf. The calf should nurse as much as possible, and that which isn't nursed should be given by stomach tube as described for giving fluids orally in Service in Action sheet 8.005, Calf diarrhea—its treatment. If the calf is to be separated from the cow, as in a dairy operation, they should be left together for at least 24 hours.

For the beef producer, it often is impossible to obtain colostrum from your own cows. Colostrum may be obtained from dairies and frozen for future use. Colostrum that is obtained and frozen fresh will keep indefinitely. It then may be thawed and used as needed. If it sours, it is of no benefit in providing antibodies to the calf and increasing its resistance to disease.

Only the colostrum from the first milking, and certainly none past the second milking, should be saved. Just as the calf's ability to absorb colostrum antibodies begins to decrease immediately after birth, so also do the antibodies that the cow secretes into the colostrum. The antibody concentration in the first milking is twice that present in the second and five times that in the third milking.

If ample quantities of good colostrum are not available from the cow, or if the calf isn't found immediately after birth, the calf should be given as much colostrum as is available up to three quarts (3 liters) and not less than one quart (1 l) as soon as possible after birth (preferably not later than eight hours).

Although obtaining, saving and giving colostrum in this manner is a lot of work, it is by far the most beneficial way to prevent diarrhea in calves. It is particularly important for calves born to heifers for several reasons: 1) heifers don't give as much colostrum as older cows and what they do give is not nearly as good; 2) heifers often don't mother their calves as well as older cows so the chance of getting what colostrum there is reduced; 3) heifers have more trouble calving, which increases the stress on calves and decreases their resistance to disease and their ability to absorb colostrum antibodies; and 4) heifers often are kept under close confinement for necessary help at calving, and this confinement increases the calves' exposure to disease-producing organisms.

If a reovirus or coronavirus I is found to be the cause of diarrhea, giving the oral vaccine, Scourvax (Norden Labs) as soon as possible (but no later than 12 hours) after birth may be helpful. For this vaccine to be of any benefit, it must be given to all calves as they are born and the cause of the diarrhea must be one of these two viruses. (Service in Action sheet 8.004, Calf diarrhea—its causes, discusses a number of other viruses and bacteria that may cause diarrhea in calves.)

Newborn healthy calves should not be given antibiotic- or sulfa-containing scours pills. Although they may be beneficial for treatment of diarrhea, they are hindrances to prevention. This is because there are bacteria normally present in the calf's stomach and intestine which are helpful in digesting milk and in preventing disease-producing organisms from colonizing these areas. Giving antibiotics or sulfas to the healthy calf kills these organisms and may do more to cause than to prevent diarrhea. However, if many calves in a herd develop severe diarrhea within the first day or so of life, giving proper antibiotics orally for several days after birth may be beneficial.