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# Animal Science

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## POOR NUTRITION, COLD WEATHER AND RAIN CONTRIBUTE TO CALF LOSSES

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The combination of feeding low quality hay, cold, damp weather and “thin” cows during the winter creates problems with calf survival. Increased incidence of weak calves at birth, scours, other health problems and eventually death of young calves can be anticipated under these conditions.

Most cow-calf producers will be inclined to place the greatest responsibility for these losses on disease causing organisms. The real culprits in baby calf losses are poor nutrition of brood cows prior to and following calving, the winter conditions and the inability of the producer to recognize the combined effects of these factors. A cow that calves in a body condition of “4” or below will very likely not recover in condition until grass is available.

Extended periods of wet, cold weather create a “chill factor” that both cow and the calf must endure. Wet weather produces mud. Cold mud has a greater effect on energy expended or energy loss by the cows and calves than if the ground was frozen. Mud is also a reservoir for disease causing organisms. Cold mud withdraws body heat and therefore drain the energy of the cows and calves.

Mud affects springing cows just as adversely as it does feedlot cattle, but the results are not as easily measured. It is known that when a late gestation cow’s energy or protein needs are not met the fetus is deprived of fat reserves. A lactating cow deprived of needed nutrients in late gestation produces less colostrum and milk for her young calf.

Cattle exposed to dry, cold weather will increase their consumption of forages by up to 30 percent, but digestibility goes down. Conversely, precipitation and muddy conditions, at any temperature, may depress forage intake by up to 30 percent. The reduced forage consumption can only be compensated by feeding grain or other appropriate concentrates or providing some type of shelter or wind break. Forages with inadequate protein content will be even less digestible and a poor source of energy.

The energy requirement for an 80 lb. new born calf in good weather (above 45°F) is about 2 lb. of TDN. When the effective temperature (chill factor) falls to 20°F the calf's maintenance requirement increases by about 50 percent. In cold weather, baby calves need more than a gallon of milk a day just for maintenance. A cow in a poor condition, fed low quality hay, will produce very little milk. It will not be difficult to determine the fate of a calf that is receiving only a quart to half-gallon of milk per day.

Feeding cows in a muddy area adversely affects their calves in several ways: 1) the calves use a tremendous amount of energy following the cows; 2) every time a calf nurses it gets a belly full of germ-laden mud; 3) contact with the cold mud conducts heat from the calves' bodies. It is not surprising therefore, that the disease challenge exceeds the calves' resistance level, in spite of a good immunization program.

Here are some suggestions that should help to minimize losses when a calving season is beset by miserable weather:

1. Feed concentrate supplement to cows when their intake of forage (or its quality) is inadequate to meet their energy and protein needs. Recent innovations in the feed by-product industry have resulted on concentrates that allow cattle to more efficiently utilize poor to medium quality forages.

2. Emphasize to cow-calf producers the importance and the role of forage testing. A forage test is essential to develop an effective, economical winter feeding program. (See number 1).
3. Plan a system that will allow feeding of cows on sod or otherwise out of the mud. Good locations for feeding hay include rocky areas, old road beds or constructed feeding pad (contact the local conservation Resource Service office for details and possible assistance in building feeding pads.)
4. Provide a solid, relatively dry, sheltered area for cows to bed down. Access to woods would be a plus. Cedar or pine tree thickets offer excellent cover.
5. Check on expectant cows as often as possible. A calf is most vulnerable to chilling and infection during birth and immediately thereafter.
6. Keep colostrum or a colostrum substitute on hand for emergency use. Colostrum from mature cows is better than that from heifers. Check with a local veterinarian on animal health product supplies for a colostrum substitute.
7. By 12 to 24 hours after parturition, colostrum/colostrum substitutes are not as effective. Other products, after refused to milk substitutes, are available for use.
8. Quickly rewarm newborn calves that have become chilled before being discovered. In a study by the University of Idaho, chilled calves were rewarmed effectively and much more quickly, by immersing them in tepid water (110-115°F) than by using a heat pad or heat lamp. (Don't put the wet calves back out in the cold.) Animal scientists at the U.S. Meat Animal

Research Center effectively rewarmed chilled calves by placing them in a metal cage and in the deflected airstream from an oil-fired portable heater.

9. Some producers might want to consider using portable calf shelters. Shelters should be open-fronted structures, 8 feet x 8 feet and 4 feet high. Situate portable shelters in the area where the cows bed down. Calves use them to good advantage when they are located on high ground, faced way from the prevailing wind and kept bedded with deep draw. A wooden floor would also aid in keeping the calves off the ground. It would be more expensive, however; it would probably be a good investment.
10. Make sure cows and calves have constant access to clean drinking water.
11. Recent data indicates that mineral deficiencies/imbalance exist that may affect calf health and survival. Extension agents and commercial mineral dealers have information that will allow producers to access the mineral status of beef cows and makes improvements, if needed.

Yes, many calves that die during the winter were infected with identifiable pathogens. And, yes, vaccinating pregnant cows will increase the antibody content of their colostrum and milk. But, newborn calves will still be unnecessarily lost in the future if the effects of nasty weather and poor quality feed are not adequately compensated for. We don't know about the weather conditions, but we do know that the quality of a great percentage of the feed available to feed cows, will not be "good" this winter.

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