Livestock Notes

Safe Transportation Of Animals During Winter Months

Even though cattle and sheep have long hair coats or wooly fleeces, they can be subjected to wind chill when they become wet.

Wetting the hair coat destroys its ability to insulate the animal from cold. Death losses in cattle are often greatest when the temperature is near freezing and either rain or freezing rain is falling.

Dry, cold weather is often less hazardous, because the animal's coat or wool remains dry and retains its ability to insulate.

Wetting a calf has the same effect as lowering the outside temperature by 40 or 50 degrees F.

Death losses during transit of market weight feedlot steers are rare, but death losses can occur during a freezing rain storm. Cattle with sleek summer coats can die from exposure if they are moved into a cold area and subjected to wind or freezing rain. Get them in a dry, roofed area a day or two before transporting so the animals are dry for transport. If truck body does not have a roof, it is advisable to use a canvass cover to lessen stress.

There is no such thing as a single ideal temperature for an animal. The ideal temperature, or thermal neutral zone, in which the animal feels neither hot or cold is based on many factors, including wind speed, hair coat length, degree of wetness, condition of the animals, and the level of nutrition. You must remember that the amount of hair or wool on an animal will affect its ability to withstand cold.

Water Requirements For Beef Cattle

Water is an often overlooked but important part of beef cattle nutrition. In fact, on a pound-for-pound basis, more water is consumed than any other feedstuff.

The daily water requirement for a cow is influenced by several factors, including the rate and composition of weight gain, pregnancy, lactation, activity, the forage/grain ratio of the diet, outdoor temperature, and salt intake.

The following table shows the tremendous differences that can occur in the requirement for water. During mid-winter, the need for water is lower because of several factors: the cows are not in lactation, there may be more total feed consumption, and there is less loss from evaporation and sweat. That result is reversed in mid-summer, particularly for cows in lactation and for finishing steers.

In addition to the obvious need for water and higher salt intake, other feedstuffs can contribute to changes in the need for water. Some types of protein can act as a diuretic (less water is reabsorbed in the kidneys and more is excreted in the urine). When diets are high in protein and fed at high levels of consumption, more water may be required.

The quality of the water must also be considered. In many areas, that may be a concern about the salinity of the water. In these cases, cows could refuse to drink to point of dehydration. However, most cattle have a wide adaptability to salinity in water. If the change to salty water is not abrupt, they can adapt to most concentrations found in Pennsylvania.

Nitrates in the water may be more immediate concern. While water containing up to 3,000 parts per million (ppm) of salt should not cause any problems with cattle, water with less than 300 ppm of nitrates may cause difficulties if feedstuffs also have some nitrates in them. If there is any chance nitrate levels may be high, be sure to have the water tested.

ESTIMATED DAILY INTAKE OF WATER
(gallons per day)

	Lactating Cows	Growing Steers	Finishing Steers
January	11.0	6.0	7.0
February	11.5	6.5	7.5
May	17.0	9.5	11.0
August	16.5	14.0	17.0
September	17.5	10.0	12.0
December	11.0	6.0	7.0

Shipping Fever Pneumonia

As sure as fall arrives each year, you can count on the appearance of shipping fever pneumonia or bovine respiratory disease (BRD).

Typically, calves born the previous winter or spring as assembled and shipped to the cattle feeder in the fall. Within the first week or two, calves get depressed, quit, or just never start eating, develop a fever, and show varying degrees of respiratory distress.

This situation has occurred for as long as most of us associated with the cattle industry can remember, and probably will continue in the foreseeable future.

Curiously, we think we know what causes it; and some will go so far as to say that it is preventable. Why do we continue to tolerate the significant economic losses that follow?

BRD is a disease that is caused by both management and health-related factors. We know that when young animals with low natural immunity are stressed by moving them from their familiar surroundings, mixing them with other stressed calves shedding unfamiliar organisms, and subjecting them to both environmental and nutritional changes, they are likely to get sick. Yet, because the cost of disease prevention practices and the unwillingness to abandon animal handling procedures passed on from previous generations, we seem willing to accept those losses.

Once again this fall, the calves that didn't survive arrived for post-mortem examination and diagnostic evaluation at the Penn State Animal Diagnostic Lab. Lungs from the calves are cultured there for bacterial growth and determination of which antibiotics are likely to be most effective against the particular bacteria isolated. Several tests are also used to determine what viruses are involved since they usually start the infection and weaken the defenses so that the bacteria are able to invade the lung.

If feeder calf producers and buyers would make effective use of the knowledge gained from years of experience with this problem, much of the sickness and economic loss could be prevented. Proper management of these calves through the marketing channels as well as on arrival at the feeders is the most important aspect. Use of some of the new vaccines at the proper time can also be of benefit. As we begin to employ these techniques and ideas, we may be able to minimize the impact of shipping fever pneumonia.

Squeal-Activated Sensor Reduces Piglet Crushing

A device marketed under the trade name ELARM administers a slight shock to the sow at the sound of a pig squealing.

The unit consists of two microphones which attach to the farrowing crate and a belt with electrodes worn around the sow's girth.

During tests at Texas A & M University, sows wearing the device showed an immediate response to squealing piglets, resulting in one-half fewer crushed pigs per litter. Erroneous shocks were also observed. For example, each sow received an average of one shock during the lactation period because of piglets squealing during fighting. Only once was a sow shocked as a result of an extraneous noise.

Researchers conclude that the device could potentially reduce crushing losses. But they also caution the the device may lead to animal welfare problem if it is not properly adjusted to prevent unnecessary shocks.

Gaseous Pollutants From Pigs

Listed below are some typical gases found in swine facilities and their effects on humans and pigs.

Ammonia is produced from the bacterial action on urine and feces. Its levels are highest in swine barns with deep manure pits or bedding packs. Ammonia concentrations are usually less than 10 to 15 parts per million (ppm) when manure is removed at least once per week and ventilation is adequate.

Hydrogen sulfide is produced from the bacterial action on feces in manure pits. It is especially a problem when manure is agitated or flushed from one pit into another. It can even be a problem when undisturbed manure levels reach the slats.

Carbon monoxide is produced by unvented gas heaters. Most heaters and brooders in swine facilities have no flue. This presents no problem as long as the heating and the ventilation systems are functioning normally.