

Prepare your Dairy for Winter

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The short, cold days of winter are just a faded memory, but they will be back. Now is the time to prepare. Insulating a water pipe or trough against frosty temperatures is much easier now than fixing the mess when a pipe bursts. A little gravel placed now can keep you out of the mud this winter. The following checklist of animal care and facilities maintenance will help you prepare your dairy for the shorter, colder, wetter days ahead.

External parasites - Pesky external parasites are seeking shelter as daytime temperatures drop. Fall and winter are the worst times for lice infestations on cattle and calves. Some studies have shown that even light infestations that are difficult to detect will develop into major infestations as cooler weather continues. These minor infestations can cause enough irritation to reduce growth in replacement heifers and milk production in cows. Use approved products to repel or kill these freeloaders before they cause economic damage. Good sanitation with adequate clean bedding can hold down the transmission of parasites within your herd with little or no chemical use.

Hoof health – Most dairies change rations as fall and winter approach. The corn silage has been harvested and is ready to feed. For good production and to keep hooves healthy, it is time to balance rations. Get analyses on forages and other feedstuffs in storage and work with a nutritionist to develop rations that provide all nutrients throughout the winter, including vitamins and minerals. Consider using feed additives that improve hoof health, especially while animals are confined. Keep floors and lots surfaces as clean and dry as possible to prevent hoof problems and make good use of footbaths to prevent hoof disease. Rotate bath chemicals and use only as often as needed for good control. Certain chemicals like copper will accumulate in soils and can cause plant growth problems over time.

Heat detection –Failed estrus detection accounts for losses of approximately \$300 million per year in the U.S. dairy industry. Shorter days and nasty weather contribute to poorer heat detection rates. Provide good lot or barn lighting so animals can be watched easily and accurately. Provide a small sheltered area for cattle observation when weather is bad and dedicate time to observing cow behavior. Employees will spend more time catching cows in heat if they are out of the wind and rain. Poor footing leads to poor heat detection and footing is often more difficult for animals in the winter. Maintain exercise lots and feed alleys so cows will readily ride other cows. If cows are only confined in the winter, develop a group of open cows that are eligible to breed so more cows in the group will continue to cycle.

Somatic cell count – The basis for mastitis control in the winter, or anytime, is milking clean, dry udders. Mastitis is always a menace in the winter, because it is more difficult to keep cows clean and moisture in the environment supports survival and growth of mastitis pathogens. Maintain clean bedding in freestalls and open lots. This means lots must have adequate drainage and that both stalls and lots be filled with adequate base material, like clay, well before the rains fall. Wet holes in freestalls and open lots turn into mud puddles that get udders filthy and contaminated. Filling and packing the holes when it is dry will save bedding all winter and result in cleaner udders and hind legs. Level and groom bedding in stalls on a regular basis.

Reduced hair on udders means less soil and manure accumulation on the skin and drier udders for milking machine attachment. Fall is the time to trim or flame hair on udders. Keeping this hair trimmed all year round eliminates one more seasonal chore required this time of year.

Fill drives – Not only should lots and stalls be filled, but this is the time to rebuild some of those roads and driveways that get traffic during winter's wet days. Once a gravel road starts to mud up in the rain, it is difficult to get it properly filled and graded until it dries out. Gravel laid on dry roads lasts twice as long as that spread when the road base is soft and mud is beginning to accumulate on the road surface. The best method of renovation is to grade back the existing gravel cover down to the base material. Then lay geotextile fabric on top of the base to separate the soil from the gravel aggregate. This material also helps spread the vehicle load more evenly across the base soil. Finally, course aggregate is spread over the fabric and packed with a roller. A finer finish aggregate is spread and packed over the course rock. Don't forget to take care of drives around silos and other feed storage. If your feeding employee has to slip and slide the loader in and out of the bunker silo, it adds time to load the feed wagon and the employee is more likely to cut corners to get the job done.

Manure – Manure management is risky business anytime, but especially in the winter. Help yourself now. Pump out or haul manure from storages as early in the fall as is possible. Spread manure at agronomic rates on fields before planting winter crops. This is a good time to look for on-farm and off-farm sources of clean water that add to what you have to store in ponds and lagoons. Divert this clean water away from storages using roof gutters and diversion ditches. If the water doesn't get contaminated with manure, you don't want to store it all winter. Often gutters need some simple repairs and cleaning each year before rains settle in. Make sure you have a plan for emergency storage and application of manure. Don't wait until the lagoon is full for an opportunity to spread manure. In many areas, you can spread manure to growing crops throughout most of the year. Just avoid wet soils and imminent rainfall.

It is an excellent idea to take an honest evaluation of your need for additional manure storage. Regulations concerning manure management on dairies will likely become tighter. During winter existing storage facilities may be overwhelmed if manure application is inhibited by inclement weather. Although you may not be able to change to manure handling procedures now it is absolutely necessary to develop a long-term plan to cope with more stringent regulations.

Ventilation – The great outdoors provides lots of fresh air. Changing air in confinement areas reduces ammonia, carbon dioxide, hydrogen sulfide, and moisture, dilutes pathogenic microbes so animals can fight off disease easier, and often will reduce ambient temperature for better animal comfort. When cattle and calves are confined for the winter it is easy to forget it is our job to provide this fresh air. A good rule-of-thumb is that air in a confinement building must be changed once every 15 minutes or 4 times per hour. If your calf barn is 80 feet wide by 120 feet long and 10 feet high, it contains 96,000 cubic feet of air space. You need to exhaust that from the building every 15 minutes or at a steady rate of 6,400 cubic feet each minute. On many open-sided buildings this exchange is not too tough, but with limited air inlets and outlets or with small mechanical fans, the job gets much more difficult. Cold buildings are okay; wet buildings are not. Adequate ventilation helps animal health and reduces building repairs and maintenance. Get help from professional if you notice lots of moisture or ammonia accumulating inside your buildings.

Water supply – A constant supply of water of the appropriate temperature is of utmost importance on a dairy. Frozen lines, burst pipes, inadequately heated water are inefficiencies that can be prevented by annual evaluation of your water supply tanks and lines in the fall. Don't

forget to drain unused water lines, like those used for cooling cows. Water settled in low areas of pipes or tubing can freeze and split the material.

There is good reason to size and insulate water pipes anywhere to supply cool drinking water all year round. Insulated water troughs stay clean longer, too.

Now is also the time to test water temperatures coming out of water heaters or boilers. Make sure it is at least 160 degrees and that there is adequate volume to fill wash vats without a significant loss in temperature on colder days. A big surprise will come when you pressurize lines. As outside temperatures drop, it takes more hot water to clean the large milking systems on today's dairies.

Taking a little time to ready the dairy for winter weather will save time and headaches. Like the old oil filter ad used to say, "Pay me now or pay me later."