

The Ins and Outs of Outwintering

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Bio for Ed Brick:

Ed Brick is a UW-Madison graduate student looking at soil organic matter in grasslands, croplands and remnant presettlement vegetation soils. He is a civil engineer and has worked with the U. S. Army Corps of Engineers, UW-Extension, and the Wisconsin Department of Natural Resources. He and his wife Lois live near Paoli, Wisconsin where they grow prairie plants and cooperate with their neighbor whose dairy cattle graze their pastures.

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Outwintering involves keeping livestock outside for some or all of the winter and is a practice that remains somewhat controversial among graziers, conventional livestock farmers, and even with the general public. Each winter we hear a story or two about well-meaning citizens filing complaints when they see cattle out in the snow. Occasionally, there may be some real cause for concern, but most of the time these herds are in the hands of a caring person who monitors them daily. Many graziers believe outwintering keeps their stock healthier and more comfortable than they would be in a confined setting.

All classes of livestock can be outwintered, although some dairy graziers keep their lactating animals inside while outwintering dry cows and heifers. Outwintering milking cows presents additional challenges, but is being done successfully by a number of graziers across the state. Bob and Karen Breneman in Columbia County outwinter their entire herd, which is semi-seasonal. They are fed on sweet corn silage piles that Bob makes alongside their woods. Their 15,500 lb. herd average declines somewhat for the few animals that milk through the winter, but not enough to warrant investment in building or upgrading housing.

Like other aspects of management intensive grazing (MiG), the emphasis in successful outwintering is management. And, like other aspects of MiG, there are as many ways to manage an outwintering system as there are graziers. In this article we'll review our observations including information Ed gathered during a two year study of outwintering practices sponsored by the UW Center for Integrated Agricultural Systems.

One theme that is expressed frequently by those who outwinter is to design a system that works with the natural qualities of the animals. Ruminants have an internal source of heat generated by bacterial activity in the rumen, which keeps them comfortable at temperatures far below our own comfort level. This 'free' heat source combined with the ability to grow a 'winter coat' allows cattle to perform well in our climate. This is one reason why dairying has historically been associated with more northern regions around the globe—cows generally function better at cooler temperatures. They will adapt to a well-managed outwintering system.

There are several hazards involved in outwintering and one needs to be prepared to deal with any

or all of them in any given winter. These include cold temperatures, wind, deep snow, ice, rain, and mud. Most graziers agree that the most hazardous combination is rain and wind. A wet hair coat, especially if it's coated with mud and manure as well, spells trouble. Add in a strong wind, and body heat is lost in a hurry. Planning an outwintering strategy to avoid such problems is not difficult, but often requires ingenuity and flexibility.

Outwintered animals have three basic requirements: feed (plan on about 15 to 20% more feed for an animal kept outside), water, and shelter primarily from the wind, but also from rain and wet snow. Planning and preparation in fall can save a lot of time and effort during the winter.

In locating outwintering sites, try to make best use of existing shelter; convenience to feed sources and water are other important considerations. Outwintering paddocks should not be located in seasonal waterways that carry spring runoff.

**Feed.** Any preparation work you can do before snow flies is time well spent. Many producers set out round bales, spaced out through the outwintering area. These can then be fed during winter, a few at a time, using portable electric wire to ration them out.

**Water.** Water is a challenge. Obviously, most growing season watering systems will be unworkable in winter. Three alternatives include filling waterers daily from a truck-mounted tank if you've got the necessary equipment, providing water at the barn either full time or just at milking time, or making use of a spring or stream on your property. Caution must be exercised if using this last option. Approaches to stream or spring watering sites can become snowpacked and icy, increasing the chances that animals will slip and fall.

In addition, winter, and especially spring, are when stream banks are most susceptible to erosion, and cattle can do a great deal of damage to such areas. A day's worth of damage can take years to heal in these environmentally sensitive areas. If your only source of water is a stream or spring, consider pumping the water out into a tank. There are several very simple systems for accomplishing this (contact Laura for more information).

There are three general approaches to outwintering: 1) outwintering in a single, 'sacrifice' paddock, 2) rotating the herd through a limited number of paddocks, and 3) housing animals in an open sided building on a bedded pack of hay, stalks, or sawdust. Lets look at the pros and cons of each of these strategies.

**Sacrifice paddock.** In some ways, this is the easiest, cheapest option. A paddock of 5 to 10 acres for 100 animals is appropriate. Many people choose a site which has natural wind protection, such as the edge of a woods or alongside a building. You can also construct shelter. Some producers arrange round bales to create a large, curving wall (it should be 2 bales high), and a few have constructed windbreaks using lumber and landscape fabric (the material must be somewhat permeable to air movement, otherwise you've created a huge sail). Another approach is to plant a windbreak of fast growing trees. Your local NRCS office has information, and may even have cost sharing money available.

The name sacrifice paddock should give you a clue to the down side of this method. By the time spring rolls around, a sacrifice paddock needs a lot of work. Some people make the best of this practice by choosing as outwintering sites paddocks that are low in fertility or that have undesirable species present. This becomes an opportunity to renovate. Some folks reseed these areas, either doing some light tillage first or just broadcasting seed over the top. Expect to keep stock off this paddock till later in summer.

Several producers have had very good success following these paddocks. Keeping stock off outwintered paddocks until late July allows plants to grow to full vigor. Their tall growth above ground is mirrored by deep vigorous root growth that helps break up compacted soil. Restored fertility and corrected compaction more than make up for the one or two missed rotations. By that time, the grass is heading out and when the herd is let in, much of the vegetation is simply trampled. This contributes organic matter to the soil and allows the sward to reseed itself. Very likely as a result of the additional seed, fertility and rest, most producers observe increased vigor and higher yields in these fallowed paddocks.

Rotating through paddocks. Producers who use this approach rotate through a limited portion of their pasture system, selecting paddocks that are close to the barn and provide the best shelter. On the down side, this option requires providing several sets of feed, water, and shelter facilities over a larger area. On the positive side, though, it results in less damage to paddock sod and more evenly spread manure. This approach works well if you're stockpiling pasture. Graziers who stockpile can extend the grazing season and continue rotating their herds on stockpiled forage into November. If enough acres are available, stockpiled forage can be grazed in March as well, before growth begins again, thus reducing the amount of baled hay needed over the winter.

Bedded packs. A bedded pack system can be used either in a barn or shed or outside. Most folks use a bedded pack in conjunction with either a sacrifice paddock or a rotational system, bringing the animals into the pack area at night and during bad weather. Each day, additional bedding is added to the pack, providing the animals with a clean, dry place to bed. By the end of the winter, a couple of feet of bedding and manure have accumulated. The bedding absorbs manure and urine nutrients. The material is composted over the summer and can be spread back on the paddocks. This composted material is free of odor and refusal isn't an issue as it is when uncomposted manure is spread. A few producers have experimented with using hogs to turn the compost. During the winter, they sprinkle grain over the bedding as new layers are added. Then, after the cattle are finished using the pack in spring, hogs are fenced into the area and as they root for corn, they turn the compost, allowing it to work more evenly.

Summary. One of the key benefits of MiG is low production costs. One of our primary limitations in this climate is the need for winter housing. Before investing in new structures, it's worthwhile to consider exactly how much shelter your animals really require and not build more than you need. Many graziers feel that mud is the biggest challenge in outwintering. If the ground went directly from being frozen to being dry, we'd be in good shape, but this never happens and in the last few years, 'mud season' has seemed endless. There are a few ways to reduce the problems that mud causes without resorting to concrete.

If you have a ready source of cheap bedding, setting up a bedded pack, even for just a few weeks, may be your best option, even if it's only used for short periods. Sawdust, corn stover, shredded newspaper, wood chips or any absorbent, fibrous material makes good bedding. The service that bedding provides in keeping animals clean and dry and absorbing and retaining manure and urine nutrients may make it worth the cost.

Mud problems can be reduced through pasture management as well. Make use of the sun and existing shelter to site outwintering spots that dry out more quickly. You'll want to avoid outwintering on paddocks that are primarily bunch-type grasses like orchardgrass, whose open sod rapidly turns to mud in wet weather. The much maligned Kentucky bluegrass shines when it comes to durability. A good, dense sward of bluegrass will hold up better during mud season than almost any other grass species, and it will recover more quickly. Regardless of grass species, the paddocks you outwinter on will withstand the impacts better if they go into the winter with 6 or more inches of growth.

As with most aspects of management intensive grazing, there is no recipe for success. While we can always learn a lot from others, outwintering works best when you design a system that fits your herd, your facilities, and your management style. For more information, contact me at 608/742-9682. For a copy of CIAS outwintering research briefs contact Kathy Martin-Taylor at 608/262-5200 or check out their website at <http://www.wisc.edu/cias/pubs/resbrief>.