

Sustainable Livestock Wintering: How Can It Work for You?

It's All About Balance

Traditionally, cattle and sheep have been wintered in locations that provide readily available shelter, water and food. But has reliance on these key elements led to over-use of confinement facilities or other key areas on our farms? Year after year, because of limited choices, our practices have not been the most economical nor the most environmentally friendly.

Now, however, experiments in nutrition and management have shown animals can be fed on pasture during a portion of the winter, or even all of it, for about half the cost of confined feeding — and they perform well. In addition, modern livestock watering systems are capable of supplying low-cost water in even the most remote pasture locations and extreme winter conditions. And the use of portable wind fences is supplementing or replacing traditional fixed shelters.

Because of these innovations, livestock wintering has become very flexible. And that means you can change your existing system into one that has better feed efficiencies, herd health and operating costs, and is more positive for the environment. This type of sustainable system should balance your individual needs with those of the environment and the community. You benefit, the industry as a whole benefits, and so do the consumers.

Planning for a sustainable wintering system focuses on four key areas:

Resource Management Strategies

- Ground and surface water protection
- Riparian protection
- Habitat protection

Farm Management Strategies

- Site location
- Animal mobility
- Animal density
- Pressure on paddocks
- Field rotation
- Manure management
- Bedding management

Feeding Strategies

- Extended grazing
- Modified traditional practices

Infrastructure Enhancement

- Paddock development
- Water facilities
- Shelter
- Field accesses
- Runoff controls

Planning for a Sustainable System

You can develop a sustainable livestock wintering plan by focussing on four key areas:

- farm management strategies
- feeding strategies
- infrastructure enhancement
- resource management strategies

Because your operation functions under its own set of circumstances, you will need to find the right balance — the one that works best for you — between all four areas. By anticipating what impact any proposed change to one key area will have on the remaining three, you can fine tune your plan until you achieve a truly sustainable system.

Try to devise a plan that leaves you — and not your livestock — in control. This type of plan should give you the flexibility to be less reliant on central confinement facilities throughout the winter months, allowing you to move the herd or flock to and from central facilities as feed, weather and production cycles dictate.

Greenhouse Gas Mitigation Program for Canadian Agriculture

Reducing greenhouse gas through healthy pastures, efficient feed practices and better manure management

Farm Management Strategies

More management input will be needed to run a sustainable wintering system, but you can be compensated by lower labour, capital investment and feed costs. How you operate or manage your livestock wintering system goes hand in hand with your feed and infrastructure strategies, and natural resource considerations.

The priority of a sustainable system is herd/flock mobility.

Whether you move animals weekly, several times a season, or simply switch to a new site each year, it will help prevent the over-use of any one area — a practice that leads to manure accumulations. In addition, a herd or flock that is less confined will experience a cleaner environment that causes fewer health problems — resulting in a decreased production cost.

Mobility will require certain considerations.

Keeping mobility in mind, management considerations involve decisions on control of animal movement, animal densities, length of pressure on paddocks, proper and frequent field rotation, manure management, resource protection and bedding strategies.

Plan ahead to provide reliable winter-long sources of feed.

You can use standing and cut crops, and stored feed supplies. If you plan on using an extended grazing strategy, you'll have to anticipate fencing requirements and plan for them in the fall. In addition, you might want to consider fencing off smaller quantities of feed — a strategy that will reduce waste, ensure total clean-up, and contribute to a more consistent diet.

Extended grazing requires paddock planning.

Paddock development for extended grazing should be considered with feed stocks, shelter, water, bedding sites

and protection of environmentally sensitive areas in mind. Aerial photographs are readily available and free from government extension offices and are extremely useful when planning paddocks.

Fresh snow can be used for bedding.

A good bedding strategy, one that you can use only if you move animals often, is to use fresh snow. It is an excellent insulator — but it must be fresh! If animals are bedded on the frozen ground or on frozen manure packs, they will lose 60 per cent of their body heat into the frozen material. If you use straw, try and move bedding sites to different locations during the winter as cattle are moved to new feed sources.

Feeding Strategies

Extending the grazing season in any way possible is one of the goals in a sustainable wintering system. Research has shown that stockpiled forage (uncut forage from the summer season) can be used well into the fall, and then the herd can be moved to swath graze cereals and warm-season crops such as corn or millet. This can be followed by standing corn as the snow depth increases. Finally, you might consider bale-grazing the herd on forage that has been harvested and placed at different locations throughout the field in the fall.

To supplement an extended grazing effort, you might consider moving stored feed out on pasture to the herd or flock — including hay, silage and crop residues. In the spring, animals can be put back on stockpiled forage that was not grazed and use has been held in reserve during the winter.

Benefits of these strategies that serve to spread animals out over more land include more efficient use of your land base and reduced operating costs — primarily in the areas of labour for hauling feed and manure, storing feed, machinery depreciation and soil fertility.

You Can Benefit Economically From a Sustainable System

- Moving cattle or sheep to the feed, instead of moving feed to the animals, can greatly reduce feed, operating and labour costs. Savings of 50 per cent or higher are attainable when animals are left on pasture.
- Moving animals regularly to new paddocks, feed stocks or feeding grounds will help prevent manure build-up in high-use areas. Manure handling cost can be greatly reduced.
- Moving the herd or flock often will distribute manure (urine and feces) over more of your land base, thus enhancing soil fertility and allowing growing crops to use the nutrients. Commercial fertilizer requirements can be greatly reduced.
- Use of portable wind fences in conjunction with natural shelter will make it possible to use a wider variety of less-expensive feeds, reduce bedding costs, and save money on capital investment.
- Alternating wintering sites, instead of overusing the same site every winter, will reduce nutrient build-up and reduce groundcover loss. Vegetation will have a chance to recover and use nutrients more effectively, and your feed capacity will increase.
- Providing a cleaner environment, away from concentrated manure sources, will foster healthier animals and reduce health costs.

Infrastructure Enhancement

Fencing, shelter, and water are the key infrastructure requirements for a livestock wintering system. With good management, they can add tremendous flexibility to your operation. With the proper infrastructure, you will be able to:

- improve feed efficiencies through extended grazing and mobile feeding
- manage your winter site through controlled animal movement, field rotation, changes in bedding locations and controlled animal density
- implement environmental stewardship through habitat and shoreline protection, proper site location, erosion control and nutrient management

Costs in implementing infrastructure improvements are easily offset by reduced operating costs (labour, hauling, etc.) from improved feeding and bedding methods.

Shelter

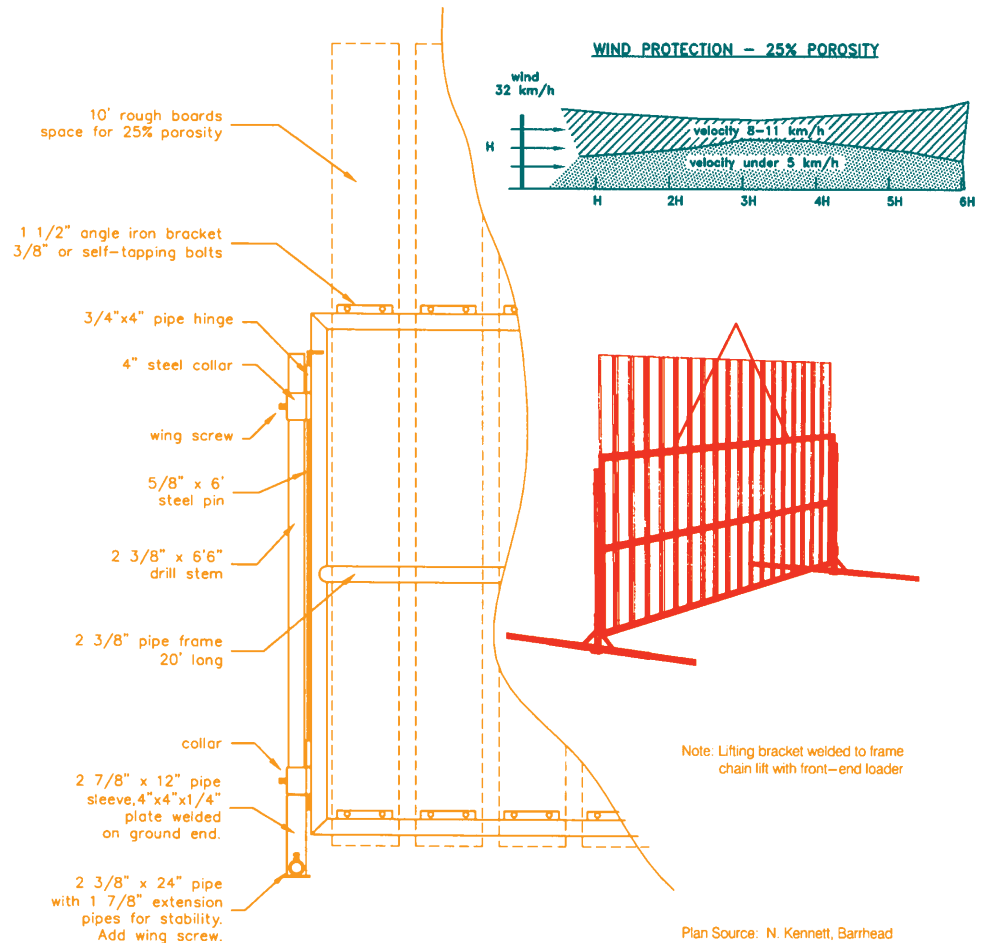
The best type of movable, affordable shelter is a number of wind fences on skids that you can pull along to a new location every time you move the herd or flock. These fences are easily built, and can be placed in a variety of configurations to block prevailing winds from several directions. You can use them in combination with natural existing shelter to protect key bush areas from overuse. (See diagram.)

Fencing

Portable or permanent fencing is essential to control and direct feeding, control animal distribution and density, encourage better field rotation, protect sensitive areas, and enhance manure distribution. Electrical fence technology has greatly improved over the years and is easily used year round. Your local fence supplier will have all of the options.

For extended grazing paddocks, post placement can be planned for and drilled in the fall as much as possible, but a cordless drill with an extension bit works well on frozen ground in the winter. Because an electric fence is a mental barrier to the animals more than a physical one, you can keep post depth shallow. Fibreglass, plastic or rebar posts are commonly used. Rebar posts are easy to remove with a couple of turns of a pipe wrench.

Portable Windbreak Fencing



Water

A reliable water supply is essential — especially if you choose to take advantage of a greater land base and feed animals that are a distance from central confinement facilities. Creating this reliable water supply is not as expensive as it used to be in light of all of the new technology available.

New technology can eliminate the need for electric power to keep water troughs from freezing. For remote pastures, you can use new solar, wind-powered, self-starting, or nose pumps. For supplying water outside the yard, deep burial of water lines to a central watering location on pasture is an economical option, and will allow for satellite lines that are shallowly buried in the summer.

Snow can be used as a water source under many circumstances; however be aware of its limitations, especially the fact that snowfall is not guaranteed.

For more information on watering options, contact your Manitoba Agriculture, Food and Rural Initiatives or Agriculture and Agri-Food Canada (PFRA) office.

Resource Management

Environmental issues are becoming more important to society, and therefore, more critical to livestock producers. So when you change or modify your wintering system, remember that you also need to incorporate resource planning and protection into your overall strategy.

Be sure to assess whether feed, water and bedding sites, traffic lanes, grazing paddocks, and other features will have negative impacts on resources. Pay particular attention to manure run-off into water bodies, riparian (shoreline) and wildlife habitat deterioration, paddock overuse, erosion, and over-concentration of manure. Visible signs of problems, such as continued thinning of bush or loss of vegetative ground cover, should be interpreted as high-priority issues — and animals should be kept away with fencing or allowed limited access through paddock rotation.

If you take the responsibility of managing natural resources wisely, you will ensure future generations have a healthy and diverse landscape.

Possible Environmental Effects of Livestock Production

- Manure concentration can thin vegetation and bush, create polluted run-off, and leech into groundwater.
- Manure can contain fecal bacteria such as E-coli 0157:H7, which can cause sickness in humans, including vomiting, diarrhea, fever, kidney failure and sometimes death.
- Manure can contain parasites such as Giardia and Cryptosporidium, which can cause gastrointestinal sickness, diarrhea and weight loss in humans and animals.
- Manure in streams and waterways can reduce water quality.
- Excess animal trampling of riparian areas can erode sediment into waterways, causing silting which can impede water flow and cause flooding.

Making a Sustainable System Work for You

How fast you make the changes that will generate a new or modified livestock wintering system will depend on your situation and your commitment, but be sure to take those first positive steps!

You can start slowly, perhaps by simply switching to a new site each winter instead of re-using the same site. Or you might begin by fencing off your stream and pumping clean water instead. Then, you might want to start moving the herd or flock a few times each winter to new feeding grounds or new bedding areas. Perhaps additional paddocks on forage or annual crop land might be a logical starting point for you.

As your sustainable wintering system develops, you can capture more economical and environmental benefits. Over time, you might want to consider involving your whole farm — for example, fencing the total area so that you can use a wide variety of feedstuffs and a greater land base.

Your operation is unique, and so are the combination of options that will work for you. The bottom line, though, is to begin planning for a sustainable system today. You may want to start by reading the factsheet *Livestock Wintering: Locating and Managing Your Site to Make It More Sustainable*, available from Manitoba Agriculture, Food and Rural Initiatives and Agriculture and Agri-Food Canada (PFRA).

For More Information

- Your local Manitoba Agriculture, Food and Rural Initiatives Growing Opportunities Centre.
- Manitoba Agriculture, Food and Rural Initiatives website: www.manitoba.ca/agriculture.
- Forage Beef website: www.foragebeef.ca. A forage and beef production website that contains information gathered from Manitoba, Alberta and Saskatchewan.
- Your local Agriculture and Agri-Food Canada (PFRA) office.
- Manitoba Forage Council website: www.mbforagecouncil.mb.ca.

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