

# Livestock Wintering: Locating and Managing your Site to Make it Sustainable



A sustainable wintering system provides livestock with essential needs—**food, water, and shelter**—while balancing **production efficiency, farm profitability, and environmental stewardship**. It includes:

- **Integrated Management:** Combines feeding, infrastructure, and resource strategies to create flexibility and maximize profits.
- **Environmental Responsibility:** Minimizes negative impacts on land and water resources, addressing concerns of neighboring communities and consumers.
- **Public Scrutiny:** Livestock practices affect not only farms but also the broader public, making sustainability a shared responsibility.

## Production Benefits of a Sustainable System

- Lower expenses for **spreading and distributing manure** across the farm.
- Livestock thrive in a **natural, low-stress environment**, resulting in:
  - Fewer health problems and better overall performance
- Utilize **on-pasture feed sources** such as:
  - Stockpiled forages, Cereal and corn swaths and/or bale grazing
    - Reduces hauling and handling costs
- Manure acts as **“farmer’s gold”**, enriching soil fertility.
- Applying manure at appropriate rates on **marginal or unproductive land** can make it productive.

## Environmental Risks of Livestock Concentration

### Manure and Nutrient Accumulation:

- Extended confinement or feeding in concentrated areas leads to **localized manure buildup** and **excess nutrients** which can **run off into surface waters**, carrying nutrients and microorganisms.

### Groundwater Vulnerability:

- High risk when manure accumulates on **shallow soils over bedrock** or **coarse sand/gravel near the surface**.
- Nutrients and pathogens can **leach into groundwater systems**.

## Pathogen Concerns:

- Manure may contain harmful bacteria and parasites:
  - **E. coli (including O157:H7):** Causes severe illness in humans (diarrhea, fever, kidney failure, sometimes death).
  - **Cryptosporidium and Giardia:** Cause gastrointestinal sickness, diarrhea, and weight loss in humans and animals.

## Wildlife and Habitat Impact:

- High livestock densities can **damage wildlife habitat, trample shorelines,** and **degrade waterways** through runoff.

## Choosing a Sustainable Wintering Site

The ideal wintering site should be:

- **Feasible for your operation**
- **Healthy and comfortable for livestock**
- **Safe for the environment**

## Factors to Consider

- **Land Characteristics:** Contours, soil type, water resources
- **Herd or Flock Requirements:** Size and nutritional needs
- **Existing Infrastructure:** Combine current facilities with new options such as:
  - Portable wind fences
  - Temporary fencing for paddocks and feeding
  - Alternative watering stations

## Goals of Sustainable Site Selection

### 1. **Protect Sensitive Areas:**

Avoid or restrict livestock access to:

- Slopes
- Sandy soils
- Non-vegetated areas
- Riparian zones
- Woodlots
- Land already nutrient-rich from manure

### 2. **Maximize Land Use:**

Utilize a greater portion of your land base and in-field feed sources for an extended period throughout the year.

## Site Selection Recommendations

### 1. Water Management

- Locate watering stations **away from natural water sources** to prevent contamination.
- Use **deeply buried pipelines** to central pasture locations.
- Consider **solar or wind-powered pumps** for reliable water supply in remote areas.

### 2. Ground Cover

- Choose sites with **good vegetation or crop residue** to filter nutrients and sediment from runoff.

### 3. Slope Considerations

- Select areas with **less than 2% slope** to minimize runoff and erosion.
- If slope is unavoidable:
  - Place bedding and feeding sites **away from waterways**.
  - Use **naturally elevated ground** for high-traffic areas to control drainage.

### 4. Soil Type

- **Clay soils** reduce leaching risk.
- Avoid sandy soils, gravel, shale, or sandstone outcrops—they increase leaching and require extra management.

### 5. Water Table & Flood Risk

- Avoid areas with **high water tables** or **spring flooding history** to prevent nutrient and bacteria migration into groundwater or surface water.

## Strategies for Maintaining a Sustainable Wintering Site

### 1. Utilize More of Your Farm

- Expand wintering areas to reduce manure accumulation and improve nutrient distribution.
- Healthy vegetation growth the following summer indicates proper manure management; poor regrowth suggests **animal density is too high**.

## 2. Manage Manure

- Remove and spread manure from bedding, watering, feeding sites, and high-traffic areas.
- Follow your farm's **nutrient budget**:
  - Calculate manure application based on crop needs.
  - Use soil tests and provincial guidelines (e.g., *Tri-Provincial Manure Application and Use Guidelines*).

## 3. Keep Animals Moving

- Move livestock every few days if possible; at minimum, relocate once or twice per winter.
- Rotate wintering sites annually to prevent overuse.

## 4. Use Portable Infrastructure

- Wind fences and portable fencing allow temporary sites and flexible movement.
- If sites cannot be moved, relocate bedding and feeding areas frequently to spread manure.

## 5. Adjust Feeding Approach

- Consider **extended grazing programs** that **take animals to the feed**, such as:

## 6. Establish Satellite Feed Storage

- Store feed in multiple locations across the farm to enable feeding in different areas and reduce pressure on central sites.

## 7. Stream Crossings and Alleyways

- Use **gravel stream crossings with control gates** to reduce erosion and protect waterways.
- Avoid placing alleyways on land prone to **run-off or seepage**.
- Limit alleyway use to prevent soil compaction and nutrient buildup.

## 8. Bedding Management

- Apply **ample bedding litter** to absorb nutrients and reduce leaching and run-off.

## 9. Vegetative Cover

- Increase vegetation wherever possible to act as a **natural filter** for run-off and sediment.
- Seed crops in these areas to utilize nutrients and provide **high-quality feed**.

## 10. Buffer Zones

- Establish **permanent vegetation buffers** around sensitive areas such as water bodies to protect water quality.

## 11. Wellhead Protection

- Maintain a **minimum 30-foot buffer** between livestock and wellheads.
- Ensure proper **drainage away from wells** and secure cribbing and lids.

## 12. Water Flow Diversion

- Divert off-site water flow around bedding and feeding areas to:
  - Reduce run-off and mud
  - Improve animal health (prevent scours in newborns)
  - Lower bedding replacement costs

## 13. Control Water Flow

- Use **landscaping with ditches and channels** to direct water leaving the site toward less-sensitive areas.

## 14. Manure Management

- **Remove and spread manure early in spring** to prevent runoff or seepage.
- Avoid spreading on:
  - Erosion-prone land
  - Areas draining directly into waterways
  - Land adjacent to permanent water bodies or major field drains

## 15. Fencing for Control

- Install **portable or permanent fencing** to:
  - Manage feeding and animal distribution and control density and rotation
  - Protect sensitive areas
  - Improve manure distribution

## 16. Watering Innovations

- Explore modern watering systems for portability and efficiency.

## 17. Wildlife Habitat Considerations

- Plan to maintain and protect wildlife habitat while managing livestock operations

## Evaluate Your Wintering Site (Put a ✓ to your sustainable practices; X to the ones that need attention)

Site Characteristics	✓ Excellent!	X Cause For Concern	X Needs Attention
Shelters	<input type="radio"/>	Portable and fixed – animals kept over large area	Fixed – animals confined in one location
Animal Density	<input type="radio"/>	Less than 4 animal units/acre	More than 6 animal units/acre
Watering/Feeding/Bedding	<input type="radio"/>	Locations moved often	Locations remain fixed
Manure Concentration	<input type="radio"/>	None	Heavy
Animal Access to Water Bodies	<input type="radio"/>	None	Uncontrolled
Slope	<input type="radio"/>	Flat (less than 2%)	Over 15% slope
Land Drainage	<input type="radio"/>	None into waterway	Direct into waterway
Vegetative Buffer Around Waterway	<input type="radio"/>	Well treed, high undergrowth	None
Water Flow Into Site	<input type="radio"/>	No off-site water drains through wintering site	Off-site water flows directly through site
Amount Ground Cover	<input type="radio"/>	High	None
Flooding	<input type="radio"/>	None	Every 3 years or more
Well Location	<input type="radio"/>	None on site (includes abandoned)	In-use or abandoned – located on site
Well Head on Site	<input type="radio"/>	Isolated	Not isolated
Well Head on Site	<input type="radio"/>	Good construction	Poor construction
Well Head on Site	<input type="radio"/>	Good drainage away from head	Water ponds at head
Soil Type	<input type="radio"/>	Clay	Sandy or bedrock exposure
Water Table	<input type="radio"/>	Low	High
Manure Spreading	<input type="radio"/>	After spring thaw	None spread at all
Site Movement	<input type="radio"/>	Alternate between several sites each year	Same site always

## Contact Us

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