# Site Selection for Winter Feeding Areas

For decades, pasture-based livestock producers have looked for ways to cut winter feeding costs and to reduce overhead. This has led many producers to focus on year-round grazing or on feeding supplemental hay or grain on pasture, as opposed to confining livestock to feedlots or barns. By allowing the livestock access to pasture, much of the manure can be distributed by the animals and the need for manure handling facilities and equipment can be reduced. This approach to winter feeding is not without its potential problems and limitations, however.

Care needs to be taken when deciding which areas of the farm are to be utilized as winter pastures or feeding areas. Soil erosion, damage to plants, soil compaction, excessive buildup of nutrients in the soil, and poor animal performance or health are all potential problems if outdoor winter feeding is poorly planned.

There are several factors that need to be considered when deciding if outdoor wintering will work on your farm. These factors should also be considered when choosing the best location on the farm to winter the livestock. These include:

- your goals as a producer
- basic needs of the livestock
- topography of the farm
- soil characteristics on the farm
- aspect (orientation to the sun)
- environmental sensitivity of the area
- aesthetics
- feeding and handling methods to be used

**Your Goals as a Producer**

What goals have you set for your winter feeding program? This is a critical question to ask yourself before committing to an outdoor winter feeding program. For example, are you trying to maximize daily gain on growing steers or lambs, or are you simply trying to maintain body weight on non-lactating beef cows or ewes? Obviously, these are two entirely different goals, and the physical environment needed to reach these goals will be different as well.

As you explore the opportunities that outdoor wintering offers, be realistic about what your goals are. Outdoor wintering is simply not realistic for all producers or for all farms. In general, outdoor wintering is much better suited for animals that are already in relatively good body condition. For example, gestating ewes or beef cows can easily have their physical requirements met through a well-planned outdoor feeding program. Outdoor wintering is generally less successful when the goal is to put body condition on thin livestock

or to maximize daily gain on growing stock. These animals see the most benefit from a more sheltered environment.

**Basic Needs of the Livestock**

Throughout this LEAP program we have focused on environmental stewardship. However, it is also essential that the basic needs of the animals be met. Basic needs such as access to water, adequate feed, shelter from high winds, and relatively dry soil conditions are all critical when selecting the area where the livestock will be placed. If any of these basic needs cannot be met, the outdoor wintering system will not succeed, regardless of how well it protects the environment.

Livestock vary greatly in their ability to withstand extreme winter weather. This ability is influenced by species, breed and body condition. For example, a well-conditioned brood cow can withstand more harsh conditions than a thin cow. A heavily woolen sheep can withstand colder temperatures and higher winds than a dairy cow, etc. These fundamental differences must be recognized when selecting an outdoor wintering site. Mature animals and animals in good body condition can tolerate more severe weather conditions than young animals or those in poor body condition.

**Topography**

Topography is important for three major reasons: drainage, risk of erosion, and protection from high winds.

In general, higher ground drains best. However, high ridge tops are prone to experience high winds and should generally be avoided unless a tree line or windbreak is available. Look for natural land features (such as knolls) that can be excellent locations for practices such as heavy-use pads. These slightly elevated areas provide positive drainage and are naturally protected from surface water flow from adjoining areas. Low-lying areas should also be avoided.

Gentle to moderately sloping sites are ideal in most cases. Extremely flat sites often experience problems with ponding of surface water and excessive soil compaction. Extremely steep sites are more likely to experience rapid run off and can be subject to erosion.

Take advantage of the topography of the area surrounding the feeding area as well. Large hills on the north or west side of the wintering area can be a valuable tool that can help shield livestock from high winds and improve animal performance.

**Soil Characteristics**

Soils vary greatly in their ability to drain water, support weight, and hold nutrients. Before selecting your livestock wintering area, it is essential that you know the characteristics of the soils on your farm. Over the years, agencies such as the USDA Natural Resources

Conservation Service and ODNR Division of Soil & Water Conservation have compiled a tremendous database of the soils here in Ohio. Much of this data is readily available to landowners through soil surveys. Depending upon the county you live in, the soil survey data will be available either through published soil survey books or through an electronic format. Please check with your local Soil & Water Conservation District (SWCD) to access this information. This information is available free of charge, and staff at the local SWCD office are available to help you. Once you have obtained the soil survey for your county, here is a step-by-step procedure for identifying the soil on your property and determining its strengths and limitations.

Start by locating your farm on the aerial photos in the soil survey. A soil survey report has on its inside front cover a section entitled "How To Use This Soil Survey." This helps you find your property or other tract of interest on the photo-based soil maps and directs you to other places in the report to gain understanding of the occurrence and nature of soils found there. One page that you will refer to repeatedly is the Index to Map Sheets, a fold-out page that usually follows the General Soil Map but precedes the photo-based maps.

On the photo-based maps, you will notice that there are many sorts of map symbols employed to identify landscape features, including streams, roads, boundaries of soil delineations, soil map unit symbols (one in each delineation), section corners and numbers, and a variety of spot symbols representing small but significant features such as sinkholes, sandy spots, wet spots, rock outcrops, and so forth. In addition, around the borders of the individual maps there are map scales, township and range numbers, and other information. These symbols and other information are described and defined on the fold-out Index to Map Sheets page and/or on its reverse, which contains the Soil Legend and the Conventional and Special Symbols Legend.

**Aspect**

Ideally, outdoor winter feeding areas should have southern or southeastern exposure to the sun. Sunlight helps to reduce soil moisture, increase soil temperature, and improve animal comfort. Avoid areas with obstructions to the south, such as trees, hills, or buildings that could block sunlight. Shaded area will tend to be colder and slow to dry after rain or snowfall events.

**Environmental Sensitivity of the Area**

On a given farm, there can be a wide array of environmentally sensitive areas. These may include areas such as stream corridors, springs or seeps, subsurface drainage tiles, ditches, wellheads, etc. Care should be taken to insure that animal waste is not allowed to accumulate in and around these sensitive areas. The following are recommendations for minimum setbacks for an animal feeding operation as set forth by the USDA Natural Resources Conservation Service Field Office Technical Guide (FOTG):

| | |
|---|---|
| Wells and Springs | 100 feet |
| Waters of the State (streams and water courses) | 100 feet |

| | |
|---|---|
| Public wells | 1,000 feet |

Manure nutrients can accumulate rapidly in winter feeding areas. This is especially true if the same area is used each year. Areas in and around the winter feeding area should be soil-tested annually to monitor the soil fertility level.

**Aesthetics**

Non-farm neighbors may not understand your goals and why you have chosen outdoor wintering. Keep in mind that their opinion of your environmental ethic will be greatly influenced by what they see. If they see mud in a pasture they may perceive that there is an environmental problem. If they see manure accumulating on an outdoor feeding pad, they may perceive that the environment is being affected, whether it really is or not.

When all other factors are equal, choose winter feeding locations that are well away from adjoining property lines and public roads. When this is not possible, try to take advantage of visual barriers such as trees or existing building that may help to shield the feeding area from public view. Remember, your goal is to achieve environmental stewardship as well as your production goals. Shielding the area from the public can help prevent unwarranted complaints, but it does not mean that the area can be mismanaged.

**Feeding Method**

There are a wide variety of methods that can be used for supplying winter feed. The method that you choose will certainly influence the location you choose. For example, if you choose to bring round bales of hay to the pasture on a daily basis, you will need to consider the distance to be traveled and the damage that the tractor may do between the hay storage area and the feeding area. Techniques such as stockpiling forage and placing bales in the field before wet weather begins can substantially reduce the risk of damage from equipment travel.

Do you currently feed your livestock outdoors during the winter? If so, stop and think about your current winter feeding program. What is the biggest environmental problem with your current system? Is it erosion and compaction done by your livestock or erosion and compaction created by your tractor or other bale-handling equipment? For many producers, the answer is the heavy equipment travel.

Outdoor wintering can be a tremendous cost-saving tool, but the environmental risks must carefully considered. Time taken to properly locate the outdoor winter feeding area is time well spent. If you need further assistance in identifying or evaluating potential wintering areas, please contact your local SWCD or your local OSU Extension office for additional guidance.