Winter Livestock Care

Living on The Land

Winter's lower temperatures and moist air place extra stress on livestock. Most livestock are well adapted to cold weather, but sick, elderly, or young animals and those under unusual stress are more susceptible.

Shelter

Most livestock can handle wind chills above 20°F without much stress. But, to stay healthy, they need a dry place to escape cold rains, wet snow, and wind.

While natural protection and windbreaks may be adequate, three-sided sheds opening away from prevailing winds are best. Allow enough room for livestock to lie down safely without being trampled or smothered. Good, clean, dry bedding insulates livestock from the cold ground, which draws away body heat.

Table 1. Sq ft of shed space recommended per head

Cows	30	Ewe w/lamb	12
Calves	15	Goats	10
Horses	100–150	Llama	25–30
Sheep	8	Alpaca	20–30

Feed

People often think they should feed livestock extra grain when the weather is cold. However, it's the fermentation of fiber that creates body heat while releasing energy. Good quality grass hay or alfalfa is effective (and less expensive) for body heat production during cold weather.

Refer to the "Animal Forage" chart to determine monthly feed requirements. The basic guideline is to feed 2% to 3% of an animal's body weight in dry matter per day. Hay contains about 10% water, so 100 pounds of dry would be 110 pounds of hay. (If you feed poor quality hay, you'll need more.) Also, weights shown in the table are for actual consumption in dry matter, so include at least 10% more to account for waste.

Table 2. Animal forage (dry matter in lb/month)

1 cow (1,000 lb)	800	1 llama	300
1 horse	1,000	1 goat	200
1 sheep	200	1 alpaca	100

These weights are for actual consumption; when feeding hay, include 10% more to account for waste.

Hay

Rely on your nose, eyes, and hands when buying hay. Good grass and alfalfa hay is generally very green. Green hay has plenty of vitamin A and the protein is usually good quality. Brown or bleached hay is deficient in vitamin A and has denatured protein. Good hay smells fresh and grassy, not moldy, musty, damp, or dusty.

Good hay is tender to the touch (thin, small stems), not coarse (thick stems). The best hay has plenty of protein-rich leaves and relatively few stems. It doesn't have weeds, manure, or other debris.

Check the maturity. Grass hays should not be fully headed-out; optimally, they should contain no more than 10% heads. Alfalfa should be harvested at about 10% to 13% bloom. If it's full of blooms, its quality is lower. Make sure all the feed you buy has been tested for nutrient values. Know what you are buying to get the best feed for your dollar.

If you are going to feed fescue hay or grass seed straw, you need to make sure they are free of endophytes. **Endophytes** are fungi that produce toxins harmful to livestock when ingested at high concentrations. Horses are especially sensitive to endophytes. If they eat even small amounts, horses can suffer fetal defects or death.

For information on sampling for endophytes and a more complete discussion of endophyte toxicity, read the OSU Extension publication *Endophyte Toxins in Grass Seed Fields and Straw: Effects on Livestock* (EM 8598-E).

One last thing of note: hay can contain seeds of noxious and toxic weeds. Be sure to buy your hay from a reputable source. Weeds can quickly become a problem for you and your neighbors if they are allowed to spread.

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Water

One of the most important considerations for winter feeding is adequate water.

Water is essential for digestion, which produces heat in fiber breakdown. Do not assume that livestock can meet their water needs by eating snow — to get enough water, eating snow would take most of their feeding time. Ingesting large quantities of snow also reduces their core body temperature.

Table 3. Estimated gallons water needed per day

Horses	8–12	Goats	1–4
Cows	7–12	Llama	2–5
Sheep	1–4	Alpaca	1–4

Water above 40°F is ideal to ensure that your animals drink enough in cold weather. Automatic water units are best; if that is not possible, be sure to provide water several times a day. In freezing temperatures, you will need to break ice if you don't have a livestock tank heater.

Providing adequate water is a basic component of accepted animal welfare practices. Note that the amount of water an animal needs varies based on several factors, such as body size, lactation, feed intake, and environmental temperature.

Managing Manure and Mud

Livestock produce a lot of manure. For example, an average horse weighing 1,000 pounds produces between 50 to 55 pounds of manure per day, an annual production of 8 to 9 tons (around 11 cubic yards). Bedding for stalled livestock creates additional waste that must be managed. The manure storage requirements for an average horse are 720 cubic feet per year (12' x 12' x 5').

So what does one do with all the poo? **Compost**! A well-managed compost pile causes nitrate in the manure to stabilize and reduces the potential for environmental harm. It kills pathogens and weed seeds. Also, besides turning livestock waste into garden gold, composting reduces the waste material's volume to about one-third of its original mass.

Table 4. Pounds manure produced per type of animal per day

Dairy cow	120–150	Ewe w/lamb	12
Heifer	50	Goat	10
Beef cow	75	Llama	12–20
Horse	50–55	Alpaca	4–5

Winter is also "mud season." Livestock in muddy pens may develop foot problems (such as thrush) or injure themselves moving across slippery ground. Further, manure and mud may run off into adjacent streams. Address these concerns by creating a **sacrifice area** (all-season pen) that has good drainage and footing.

Preparation

Before winter comes, assess your animal's living conditions and start planning for improvements. Are your barn roofs guttered? Is unpolluted rainwater or snowmelt diverted away from animal pens? What areas collect water? Can you replace muddy areas with gravel, sand, or other materials? Can you drain muddy waters out of your pens into a grassy area? Is manure ground down into the mud? Can you collect the manure and store it outside the pen for use as fertilizer next year?

Finally, in livestock production, "An ounce of prevention is worth a pound of cure." The best winter management practice is to make sure that your livestock is in good condition before the cold weather hits. Livestock never need to be fat, but making sure they are at a healthy weight is essential as they go into the winter season.

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For more information on pasture and livestock management, contact your local OSU Extension agent, Soil & Water Conservation District, or Oregon Department of Agriculture. Technical and financial assistance is available for livestock owners wishing to address resource concerns on their property.

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