

Why Winter Management Matters



As sheep operations scale up to meet solar grazing demands, winter management becomes a critical component of success. Feeding and housing systems that work for small flocks often become impractical or cost-prohibitive when flock numbers increase quickly. A strategic plan for winter care balances the flock's nutritional and water needs with economic considerations while maintaining animal well-being.

Planning helps support breeding success and avoids animal stress.

This fact sheet will focus on creative ways solar graziers are caring for sheep flocks in the "off-season" without depending on housing. This includes extended grazing with stockpiled hay or pasture, cover crop or crop residue grazing, and bale unrolling. Sheep are hardy animals and capable of living outside year-round, so long as they

have the right quality of feed, access to clean water, and shelter from freezing rain or very cold weather.

Extending the grazing season into winter, known as outwintering, requires planning to ensure ample feed is set aside for storage. The required feedstock volumes should include a reasonable back-up supply or overage to avoid running low if winter conditions persist.

Primary Winter Management Options

1. Extended Grazing With Stockpiled Forage

Stockpiling forage for overwinter use is one way to extend grazing and reduce feeding costs. Two methods of stockpiling for fall or winter grazing are:

- Reserve pastures in late summer and fall to be grazed in the fall or winter (e.g., you may let the sheep harvest the last cut).
- Plant/seed an annual forage in late

spring or early summer with the intention of fall grazing. Examples of annual forages to use are: oats and peas, millet or sorghum-sudangrass, cereal rye, triticale, or a mix of these.

Notes and Benefits:

- Makes for an efficient "harvest" of a cut of hay and spreads manure back on the field all at once.
- Sheep can graze through several inches of snow in stockpiled pastures.

- Snow can be a water source, meeting hydration needs for dry ewes in good condition.

Cautions and Considerations:

- Pasture or hay that is left to get too mature will be less palatable and may not fit the nutritional needs of the flock.
- Hay stands grazed during the critical harvest period may be at higher risk of winter kill.

2. Grazing Cover Crops and/or Crop Residue

Cover crops are used by grain producers after harvest to keep soil covered. They range from a simple one- or two-species mix (e.g. oats or peas) to more complex mixes containing 10 or more species. Cover crops decrease the risk of erosion, cycle nutrients, fix nitrogen, feed soil biology, and suppress weeds.

Cover crops are usually planted after winter wheat or other early-harvested crops and must be terminated to not outcompete subsequent crops. More grain producers are realizing the benefit of having cover crops grazed down heading into the winter as the crop will be “knocked back” if grazed down well. The livestock’s manure and urine cycles contain valuable nutrients and add microbes while also speeding up the

residue breakdown, which helps create a good seedbed for the spring.

Similarly, grazing soybean stubble or corn stalks can be helpful for both the land owner and sheep producer — as sheep eat, they clean up dropped kernels that could become volunteers the following year and help cycle heavy corn residue.

Many solar graziers will already have the necessary equipment, particularly temporary fencing systems, to manage sheep grazing remotely. Partnering with nearby grain farms to graze on cover crops can extend the grazing period into December and January, even in northern regions.

Notes and Benefits:

- Provides a cost-effective way of feeding livestock compared to using harvested hay or stored feed.

- Adds value to cover crops and enriches soil health.

Cautions and Considerations:

- Ensure an agreement is in place. Outline expectations ahead of time so both parties understand their roles and responsibilities (i.e., Who is planting the cover crop? Who pays for the seed? How soon or how late can it be grazed?).
- A lush cover crop can meet most of a ewe’s water needs; however, water must be provided at all times. This may require hauling water over great distances, depending on the location.
- For crop residue grazing, more water is required, as the feed is very dry.

3. Bale Unrolling

At some point, nearly all sheep will require stored feed before spring arrives and a new grain season begins. Unrolled bales are an excellent way to feed a large number of sheep quickly and with ample “bunk” space, all while reducing yardage (no dry lot to clean out and spread in the spring). Unrolling on existing pasture or established hay fields can be an effective and efficient means of overwintering large numbers of sheep. Sheep will maximize palatable forage, and the remaining hay can be used for bedding and added organic matter for the pasture.

Notes and Benefits:

- Unrolling bales distributes manure evenly, reduces wasted hay, and expands animal access.
- Baled sites enrich the soil and enhance soil health.
- Unrolling hay eliminates the cost of hay racks, provides excellent access for large numbers, reduces waste, and adds fertility across the field.

Cautions and Considerations:

- Muddy conditions are not conducive to bale unrolling. This system works best on frozen ground and on established hay or pasture, with a

strong thatch and sound footing (especially in late winter/early spring).

- Avoid compaction and rutting of fields by using a quad or a small tractor during the thaw or if the ground is not frozen.
- Time bale unrolling with the coldest part of the day (i.e., early morning) when days begin to get above the freezing mark.
- Have a plan for spring. Consider establishing and maintaining a designated spring pasture with stockpiled forage for added soil stability, good drainage, and a wind break or shelter for cold rain or wet snow.

Matching Systems to Your Operation

Extended Grazing Is Ideal For

- Operations with access to stockpiled forage or cover crop arrangements
- Regions with moderate winter snowfall and minimal crusting
- Farms with limited barn space or equipment
- Farms with a limited land base
- Operations with adequate predator protection, such as reliable fencing and guardian animals

Bale Grazing Works Well For

- Large or rapidly expanding flocks
- When extended grazing flocks come to where they will stay until grazing begins again
- Farms taking measures to improve poor pastures or those prioritizing improving soil health

Indoor Housing Is Best For

- Operations located in climates with harsh, wet winter conditions where extended grazing is not available
- Farms with existing barns and established winter lambing programs that require close monitoring
- Producers who can invest in capital improvements and infrastructure

Geographical Considerations Affect Winter Management

- **Snow Depth:** Very deep, persistent snow may limit grazing options in northern regions, requiring earlier hay feeding, unrolling, or housing the flock.
- **Temperature:** Sheep tolerate cold well with good fleece covering, but need additional shelter or protection in extreme conditions (i.e., freezing rain).
- **Predator Pressure:** Pressure can vary significantly by region, but high-pressure regions may need enclosed wintering areas.
- **Accessibility of Infrastructure:** Proximity to roads for feed delivery and access is critical in severe weather.



Tips to Effectively Implement These Systems

Extended Outdoor Grazing

- Maintain body condition scores of 3+ for ewes before going into winter.
- Use portable electric fencing (reels or net) and solar-powered energizers.
- Deploy adequate livestock guardian animals (e.g., 3+ dogs per 200 sheep).
- Keep emergency hay reserves accessible to grazing areas.
- Understand the limitations of your operation and have a contingency plan for deep snowfall, heavy crusting, or very wet/muddy conditions.

Bale Unrolling

- If committing to hay unrolling, ensure uninterrupted access to unrolling machinery (tractor, pick-up, ATV with unrolling devices).

Indoor Housing

- Design housing to ensure proper airflow and prevent respiratory illness without creating drafts.
- Provide 16–24 inches of bunk space per ewe when limit feeding.
- Establish a manure management plan (6.5–8.5 lbs manure/day per 150 lb ewe).
- Consider pre-winter shearing to increase stocking density up to 20%.
- Explore tech options (cameras, automated feeders) to reduce labor demand.
- Provide a required 0.75-1.5 lbs of straw bedding per ewe per day for comfort and cleanliness.

When Do Systems Make Financial and Business Sense?

- **Extended Grazing:** Potential to save approximately \$18 per ewe annually in feed cost and eliminate up to 75 days of hay feeding, but this system may require more land area and effective planning.
- **Cover Crops:** Cost-effective and mutually beneficial to sheep producers and crop farmers.
- **Bale Grazing:** Strategic bale grazing can increase organic matter and overall fertility of soil in grazing areas.
- **Indoor Housing:** Can require significant upfront capital and increased labor inputs, but may boost production efficiency and lambing success.
- **Labor & Scalability:** Well-planned and -designed systems support operation expansion to accommodate solar grazing contracts, reduce weather-related emergencies, improve conception rates and lamb survival, and reduce daily winter workloads.

Resources

- **American Solar Grazing Association (ASGA):** ASGA provides solar grazing best practices, technical assistance, and training certifications.
- **American Sheep Industry Association (ASI) Sheep Care Guide:** Covers information on well-being criteria for sheep producers using a variety of management and production systems.
- **American Humane Society:** AHS offers support to keep sheep healthy.

For more information, contact ASGA at SolarGrazing.org or American Humane Society at AmericanHumaneFarm.org.