



Guide to Raising Healthy Sheep



For more information contact:

Aerica Opatik
 Extension agriculture educator
 920-388-7141
 aerica.opatik@ces.uwex.edu

Dave Thomas
 Extension sheep specialist
 608-263-4306
 dlthomas@wisc.edu

Aerica Opatik

Since the end of World War II, the number of sheep in the United States has declined from an all-time high of 56 million in 1942 to 6.2 million in 2007. Several factors have contributed to this sharp decline, including competition from overseas producers and from other meat and fiber industries.

However, the sheep industry is changing. An increasing number of sheep are being raised on small farms instead of on large ranches. The decline in the number of sheep is slowing, and new and emerging specialty markets, such as “locally grown” food, high-quality sheep cheese, and specialty wools, offer new possibilities for the industry.

Facilities

Water

Water is the most important nutrient in any diet, so it is essential that you provide plenty of fresh, clean water for your sheep.

The most common watering apparatus are automatic bowls (with and without heaters) and galvanized or poly tanks. Be sure the apparatus provides adequate water and space for the animals (table 1). If watering animals from a tank, the tank perimeter must

be carefully considered. Be sure to use a tank with sides low enough for your lambs to drink without choking themselves.

Snow can replace water in winter months, but ewes must have fresh water daily for 6 weeks prior to lambing. To prevent water in the tank from freezing in the winter, install a simple tank heater from a local farm supply store.

Pasture

Sheep require little shelter, because they have wool to insulate them. They tend to take advantage of natural windbreaks such as trees, shrubs, and hills. If sheep are housed in an open field with no natural windbreaks, it is advisable to construct some. Simple windbreaks such as large roundbales or hay feeders work well. Another option is to install permanent windbreaks, such as sheets of plywood or sheet metal anchored in the ground.

Lambing barn

It is a good idea to supply a covered, draft-free area for lambing. A typical ewe requires a pen approximately 4.5' X 4.5' X 3' for lambing. You may want to install a warming lamp to help dry off lambs, but only use it sparingly. Excessive use of warming lamps may create respiratory problems in the lambs. Warming lamps are a potential fire hazard, so be sure to follow the mounting instructions and keep them away from hay, straw, and excessive dust.

Table 1.
Number of sheep watered by apparatus

Type of sheep	Automatic bowl	Tank
Ewes (with or without lambs)	40–50	15–25
Weaned feeder lambs	50–75	25–40



Feeding/Loafing lots

In some facilities, sheep may be housed in winter loafing lots or barns. Since many ewes are pregnant during winter months when animals would typically be housed indoors, it is important to supply them with adequate space to reduce injury or stress (table 2).

Table 2. Minimum space requirements

Type of sheep	Indoors (ft ²)	Loafing lot (ft ²)
Ewe	10–12	25–40
Ewe with lambs (as a group)	12–16	25–40
Weaned feeder lambs	6–8	15–20

Feeding space

Bunk feeding space is crucial for the proper growth and nutrition of your animals. In a group-fed or self-fed situation, ewes require 8–20 inches of space per animal, depending on the type of feed. Feeding hay requires 8–10 inches per animal, while feeding silage requires 12–20 inches. Lambs fed in the same manner require 3–4 inches per animal. Creep-fed lambs require 1–1.5 inches of bunk space per animal.

Fence

Fencing for sheep keeps the animals in a defined area and keeps predators out. A high-tensile electric fence is effective for sheep. Use at least five strands of wire, with spacings of approximately 6, 5, 5, 8, and 10 inches, starting from the ground. Although it is usually cost prohibitive, woven wire is sometimes used. A combination of woven wire with off-set electric fence is yet another option. A perimeter electric wire can be installed 6–10 inches above the ground. If choosing this option, you must keep grass clear of the fence to prevent grounding out. Similarly, check for and remove wool that gets wrapped around the electric fence.

Reproduction

Depending on your goals with your flock, breeding programs will vary. If you are raising lambs for meat, “commercial ewes” are commonly found in flocks. Such ewes are typically not registered and are commonly crossbred. A good commercial ewe will have a pedigree of maternal traits such as large litter size and milking ability. Generally in a program that strives to raise market lambs, a “terminal sire” will be used on the commercial ewes. A terminal sire is generally a purebred, meat-type sheep (see list of meat breeds). If your desire is to raise sheep for wool, purebred and crossbred wool breed sheep would be the best choice. Commercial and purebred sheep can be sourced through state or national sheep breeders’ associations.

Being knowledgeable about sheep breeding cycles is important if you are to have a productive flock. Listed below are key points to sheep reproduction:

- A ewe lamb will enter into puberty when she exhibits her first estrus (heat).
- The age of a lamb at puberty varies depending on breed, nutrition, and the season in which she was born.
- A typical ewe lamb will reach puberty between 5 months and 1 year of age.
- A ewe lamb should not be bred until she reaches at least 70% of her mature weight. This percentage will vary depending on breed.
- The estrus cycle ranges from 13 to 19 days and averages 17 days (a ewe will come into heat about every 17 days).
- A sheep’s gestation period is approximately 147 days, but this will vary depending on breed.
- The generation interval is the average age of parents when their offspring are born, which, in sheep, is approximately 4–5 years.
- Most ewes will have one to three lambs per litter (per year). Some ewes may have four or five depending on breed.

Nutrition

General

Depending on your operation style, feed and nutrient requirements for your sheep will vary. Operations that manage sheep at basic levels can manage and maintain animals with minimal input by incorporating pasture, dry hay for winter feeding, and some supplemental grains. More intensively managed sheep, such as market lambs, are often fed for production. Such management practices include feeding high-quality haylage, corn silage, and grains. However you manage your sheep, the key to any operation is to provide quality forage and clean, fresh water. A sheep’s water requirements vary depending on stage of production, sex, weight, and environmental conditions such as temperature. These factors change constantly, and the sheep’s diet must be adjusted accordingly.

Ewe nutrition

Ewes have specific nutritional needs depending on the season and stage of production. Ewe nutrition can be divided into the following phases of gestation:

- “flushing” or breeding season
- early gestation and maintenance
- late gestation (the last 4–6 weeks before lambing)
- lactation (the 6 weeks after lambing)

Simply supplying a ewe with fresh pasture or supplementing her with 0.5–1.0 pound of grain per day 2 weeks prior to breeding season and continuing 2–4 weeks into breeding season can improve conception. During early gestation and maintenance, when ewes do not lactate, they can be fed medium-to-low quality forage with some salt and mineral and plenty of water. At this time it is also essential that you treat for internal parasites. During late gestation, mineral feeding is critical. Forage quality should be increased and supplemental grains may be added to the diet to help with adequate fetal growth. Ewes should be gaining 0.3–0.5 pounds per day during late gestation. Inadequate nutrition leads to weakened ewes that produce low milk and give birth to weak lambs.

Subsequently, this may lead to the death of the lambs and even the ewe. During lactation, ewes can be fed a diet similar to that administered during late gestation. It is important to supply a ewe with adequate nutrition depending on how many lambs she is raising.

Breeds

Common breeds raised primarily for meat are Suffolk, Hampshire, Texel, Dorset, and Shouthdown. Common breeds raised primarily for wool are Lincoln, Romney, Merino, and Rambouillet. Breeds that excel in both meat and wool are Columbia, Finnsheep, Polypay, and Targhee. If you are planning to start a milking sheep operation, the best breeds for milk are East Friesian and Lacaune. Another sheep variety is hair sheep, the most common breeds being Barbados Blackbelly, Katahdin, and St. Croix.

Health and biosecurity

Docking

Sheep have unique health requirements when compared to other typical farm animals. Sheep must have their tails docked for several reasons, the most important of which is to prevent fly-strike. When a sheep's tail is not docked, heavy build-up of wool and manure is literally a breeding ground for flies. Fly-strike occurs when blowflies lay their eggs in the manure and wool of a sheep's dock area. Maggots hatch from the eggs and feed on the sheep's flesh. By simply docking a lamb at an early age, fly-strike can usually be prevented. Lambs should be docked by 2 weeks of age. The earlier the lamb is docked, the less stressful it is on the animal. Be sure to leave the docked tail long enough to cover the ewe lamb's vulva. Dock the tail the same length on males.



While there are various methods of docking lambs, the most common and safe are an elastrator and a docker knife (similar to scissors). The elastrator simply stretches a very small rubber band over the tail. The band eventually cuts off circulation in the tail, causing it to die and fall off. A docker knife is used in a similar manner as scissors, whereby you simply cut the tail at the point at which you want it docked. Electric docker knives cauterize the tail and seal the open wound. Both the elastrator and docker knife can also be used for castrating ram lambs. Castration should be done before 2 weeks of age.

Shearing

Sheep must be shorn at least once a year. A common time to shear is shortly before ewes lamb. It is important to note, though, if you choose to shear at this time you must provide ewes with enough shelter to stay warm. There are electric and manual shearers. As shearing sheep takes a lot of skill, it is best to rely on a professional until you learn the skills to shear a sheep on your own. Professional sheep shearers are available to come to your farm to shear.

Hoof trimming

Hoof maintenance is very important for sheep. Depending on the particular animal, hooves may require trimming two or more times each year. Although some sheep will wear down their hooves just from everyday walking, some will need regular trimming. Trimming hooves is an acquired skill and must be done correctly. Do not attempt to trim a hoof unless you have taken a class or been shown by an expert. Incorrectly trimming a hoof can be very painful to a sheep and may cause them to become lame. Hoof trimming tools are rather inexpensive and can be purchased at your local farm supply store.

Disease/biosecurity

Biosecurity involves taking measures to prevent the introduction of disease agents and their spread to and from animal populations or their proximity.

Biosecurity has three main components:

- isolation, or the confinement of animals away from other animals
- traffic control, or controlling the movement of people, animals, and equipment
- sanitation/husbandry, involving the cleanliness and care of animals and their environment

The most common way in which new diseases are introduced into a flock is through new animal additions. In order to prevent transmission of new diseases, work with your veterinarian to design a biosecurity protocol.

One health concern for sheep is parasite control. The most serious parasites reside in the forages that sheep graze on. Areas receiving significant rainfall have higher occurrences of excessive parasite problems. In order to disrupt the life cycle of the parasites, use anthelmintics (dewormers) in combination with pasture management strategies. It is most common to worm sheep every 6 months, usually in the spring and fall. Lambs on pasture should be wormed once each month.

Another major health concern is scrapie, a fatal, degenerative disease affecting the central nervous system of sheep and goats. Scrapie damages nerve cells and causes behavioral changes. Indicators include hopping like a rabbit, stepping high of forelegs, swaying of hind end, tremmoring, rubbing on fences or buildings, and gait abnormalities. If you suspect scrapie in your flock, contact your veterinarian immediately. State departments of agriculture, trade, and consumer protection have programs available to identify sheep with a special scrapie tag. Contact your local state office to obtain free tags.

Manure management

All livestock producers are responsible for properly and safely disposing of manure. Because many sheep spend most of their life on pasture, sheep act as “natural manure spreaders,” meaning build-up of manure is minimal. However, there are certain situations in which sheep are confined and manure may build up, such as when sheep are penned for handling, lambing, or winter feeding. Generally, spreading this solid manure does not require special permits or rules for proper disposal. When you do spread solid manure, avoid spreading near known sink holes, during rain, near permanent and intermittent bodies of water, and on steep land grades. Contact your county Land and Water Conservation office for more information.



Behavior/handling

- Sheep have a “flocking” instinct and tend to move as one large group.
- Sheep do not like to be separated out from the group and will try very hard to return to the flock.
- Keep movement of animals quiet and calm. Do not yell at or hit sheep.
- Never use an electric prod on sheep.
- If a dog is used to herd sheep, be sure it is well-trained and does not bite them.
- To reduce animals’ stress and confusion, perform “test-runs” of handling equipment.
- Gradually funnel animals into loading chutes to reduce bunching and jamming.
- Keep facilities and loading chutes well-lit and free from shadows. This helps reduce balking caused by reflections and bright spots.
- Single-file pathways prevent sheep from attempting to turn around or bunch up.
- As sheep prefer to move uphill in raceways, inclines should be gradual.
- When in handling pathways, sheep will follow other sheep in front of them. Curved pathways allow sheep to move forward without seeing working areas or chutes until they are upon them. Curves in pathways should be gradual so they do not appear blind ended.
- Sheep instinctively move into the wind. When determining where to locate watering facilities and working areas, keep in mind that sheep prefer to move according to natural instincts.

Additional resources

Sheep Ailments—Recognition and Treatment, Eddie Staiton, Seventh Edition, 192 pp.

The Sheep Book: A Handbook for the Modern Shepherd, Ron Parker, 321 pp.

Sheep Housing and Equipment Handbook, Fourth Edition, MidWest Plan Service, 1994, 96 pp.

Storey’s Barn Guide to Sheep, Storey Publishing, 96 pp.

Storey’s Guide to Raising Sheep, Paula Simmons, 400 pp.

The Veterinary Book for Sheep Farmers, David C. Henderson, 690 pp.

Video/DVD

The Basics of Good Sheep Management, ©1990 Rural Route Videos, 120 minutes.

Shearing Techniques, ©1988 Rural Route Videos, 100 minutes.

Web sites

American Sheep Industry Association
www.sheepusa.org/

Maryland Small Ruminant Page
sheepandgoat.com/Index.html

Oklahoma State University Breeds of Livestock
www.ansi.okstate.edu/breeds/sheep/

Scrapie disease information,
www.aphis.usda.gov/animal_health/animal_diseases/scrapie/index2.shtml

Wisconsin Sheep Breeders Co-op,
www.wisbc.com/

UW
Extension

Copyright ©2008 by the Board of Regents of the University of Wisconsin System doing business as the division of Cooperative Extension of the University of Wisconsin–Extension. All rights reserved. Send copyright inquiries to: Cooperative Extension Publishing, 432 N. Lake St., Rm. 231, Madison, WI 53706.

Author: Aerica Opatik is an agriculture educator in Kewaunee County with University of Wisconsin–Extension, Cooperative Extension. Produced by Cooperative Extension Publishing, University of Wisconsin–Extension.

Issued in furtherance of Cooperative Extension work, Acts of Congress of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, University of Wisconsin–Extension, Cooperative Extension. University of Wisconsin–Extension provides equal opportunities in employment and programming, including Title IX and ADA requirements. If you need this information in an alternative format, contact the Office of Equal Opportunity and Diversity Programs or call Extension Publishing at 608-262-2655.

To see more publications or to order copies of this publication, visit us at learningstore.uwex.edu or call toll-free: 877-WIS-PUBS (947-7827).