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# Sheep Health and Management Guide


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## Introduction

Maintaining flock health is important because it directly affects animal productivity and farm profitability. Good management reduces disease, positively influencing lamb growth and breeding animal productivity. Proper nutrition leads to higher quality animals or wool products. Well-managed sheep are healthier and more productive, lowering veterinary and feed costs, while also reducing labor in the long run.

Facilities are often overlooked in the management of sheep health. Ensuring living conditions are clean, dry, and well-ventilated helps avoid health problems.

Routine vaccinations are essential to your animals' health and well-being. Producers should select vaccines based on historical health issues or regional disease risks. Many breeding companies provide vaccine protocols for gestational ewes. A widely used vaccine is CD&T, which provides protection against *Clostridium perfringens* types C and D, as well as tetanus.

## General Health Principles

A healthy adult sheep should be alert, healthy-looking, and have an adequate body condition (Body Condition Score 3). Normal vital signs of a healthy adult sheep include:

| Item | Normal Range |
|---|---|
| Body Temperature | 101 to 104 degrees Fahrenheit |
| Heart Rate | 60 to 90 beats per minute |
| Respiration Rate | 12 to 35 breaths per minute |

Common signs of illness include:

- Head and ears down and droopy.
- Thin, sunken appearance.
- Isolation, frequent lying down, and loss of appetite.
- Lethargic, hunched back, pawing on the ground, grinding teeth.

## *Biosecurity*

Biosecurity has three parts: isolating problem animals, directing foot traffic from animals that have not been exposed to diseases or those with underdeveloped immune systems to infected animals, and sanitizing equipment and facilities. Diseases can be spread through direct contact, exposure to wildlife, airborne transmission, contaminated feed or water, foot traffic, and vehicle movement.

The most effective biosecurity strategy is maintaining a closed flock. Animals new to the flock may introduce infectious diseases or contract diseases to which the established flock has developed resistance.

When introducing newly acquired sheep, a two-week quarantine is recommended to prevent disease transmission. Transport stress can reactivate dormant diseases in sheep, making quarantine a crucial step in preventing disease transmission.

Testing for ovine progressive pneumonia virus (OPPv) and Johne's disease is recommended before introducing new sheep into the flock.

Things to look for during the quarantine period:

- Changes in appetite, body condition score, and feces.
- Respiratory symptoms, including a runny nose, coughing, or raspy breathing.
- Dull eyes, droopy ears, lying down frequently, and overall poor performance.
- If any of these symptoms appear in newly acquired sheep, consult a veterinarian before introducing them into the flock.

Proactive disease prevention is the most effective way to maintain a healthy flock. Effective flock management includes checking sheep daily for signs of disease. These signs can include signs of digestive upset, lameness, and respiratory conditions. Know what is normal for the flock to pick out abnormalities.

Many diseases are caused by malnutrition of the gestational ewe. Body condition score of ewes is essential for ewe and lamb health. A ewe's body condition score should be kept between 3 and 4 on a 5-point scale during pregnancy.

Clean living conditions and vigilant observations are essential to keep these infectious agents at bay. To prevent fecal-to-oral reinfection, do not feed sheep on the ground. If a ewe is aborting, remove it from the flock and quarantine to prevent disease spread through infected fetal fluids. Remember to wear gloves and consult a veterinarian.

Work with a veterinarian to create a vaccination program suited to an individual operation. Clostridial vaccines are some of the few recommended for all small ruminants and are given routinely. Clostridial bacteria live in the manure of sheep and are already present in the gut. The bacteria cause ulcerations of the small intestine. Illness can be lethal to lambs but can be prevented with vaccination. CD&T should be administered annually to mature animals. Gestational ewes should receive a CD&T injection 30 days before lambing to provide passive immune protection to their lambs. Lambs should be vaccinated at six to eight weeks and given a booster two to four weeks after.

# Common Diseases of Sheep

## *Diseases of the Ewe*

| Name | Cause | Symptoms | Prevention |
|---|---|---|---|
| **Mastitis** | • Bacteria coming into the teat.<br>• Can rapidly become ill from absorption of toxins and bacteria. | • Udder will become hot to the touch and hard.<br>• May lose milking ability on the infected quadrant. | • Clean, dry living conditions.<br>• High-quality mineral.<br>• Routinely check udder of lactating ewes for hardness. |
| **Ovine Progressive Pneumonia Virus (OPPv)** | • Spreads through respiratory particles and milk. | • Reduces lamb crop and milking yield.<br>• Lose body condition as soon as two years old.<br>• Accumulates scar tissue in udder.<br>• Potential respiratory symptoms. | • Test ewes being brought into the flock. |
| **Pregnancy Toxemia** | • Having multiple fetuses.<br>• Under- or overweight.<br>• Difficulty mobilizing fat to support the fetuses. | • Hesitant to eat.<br>• Tender footed.<br>• May lie down and struggle to get back up.<br>• Have an off-putting odor and crusty discharge on vulva. | • Sort ewes based on number of lambs and body condition score to feed accordingly.<br>• Keep ewes at a body condition score 3 to 4 throughout late gestation.<br>• High energy and protein in diet.<br>• Test for ketone bodies in urine. |
| **Stillbirth** | • Absorption of infectious agents can cross the placental barrier.<br>• *Campylobacter* spp., bacteria; *Toxoplasma gondii*, protozoan parasite; and *Chlamydophila abortus*, bacteria; are common infectious agents.<br>• Come from infected fetal fluids, bird feces, and cat feces. | • Fetuses can be reabsorbed, mummified or delivered early. | • Campylobacter and Chlamydia can be vaccinated against.<br>• Quarantine ewes after abortion.<br>• Sanitize to prevent spread.<br>• Feeds formulated with decoquinate fight off toxoplasmosis.<br>• Aborted fetus and placental tissues should be sent to a local diagnostic lab for full panel results. |

## Diseases of the Ram

| Name | Cause | Symptoms | Prevention |
|---|---|---|---|
| **Cryptorchidism** | • One or both testicles not descending properly. | • Uneven scrotum.<br>• Can cause infertility issues. | • Culling is the best prevention due to genetic transmission. |
| **Epididymitis** | • Physical trauma or bacterial infection. | • Inflammation of the epididymis.<br>• Reproductive inefficiency. | • Breeding soundness exams or routine palpation.<br>• Culling based on breeding soundness. |
| **Pizzle Rot** | • Bacteria.<br>• Increased urea concentration in the urine can cause irritation.<br>• Common in high-protein diets. | • Appear similarly to urinary calculi.<br>• Urination difficulty and discomfort.<br>• Scabs and swelling around prepuce of penis.<br>• Common in castrated males. | • Keep bedding clean.<br>• Flies may cause secondary infection.<br>• Feeding high-protein diets may enhance risk for this disease. |

## Diseases of the Lambs

Close monitoring of lambs is essential for early disease detection. Lambs that appear unhealthy and are reluctant to stand may be hypothermic or have navel infections. Check the temperatures often of poor-doers. Hypothermia, starvation, navel infections, diarrhea, and pneumonia are the most common causes of lamb mortality.

Lambs with a potbelly, that are hunched over, and potentially have a fever, likely have a navel infection. The best way to prevent this is to dip the navel at the base of the abdomen with 7% iodine. Lambs that are overly vocal and sunken-in likely need to be supplemented with a bottle to stay satiated.

Triplets may be too much for some ewes. Consider pulling the lamb that drinks best from a bottle off the ewe to help the other two.

Diarrhea can cause lamb health to decline quickly. Being proactive and consulting a veterinarian early is important for the lamb's well-being. *E. coli, Salmonella* spp., or *Clostridium perfringens* type C are bacteria that cause diarrhea. Testing is available for these infectious agents.

Older lambs may deal with bouts of acidosis or enterotoxemia. Lambs often sort different feedstuffs when being fed a textured feed or when switching feed. Feed consumption can change with the weather and social changes.

### *General Disease*

| Name | Cause | Symptoms | Prevention |
|---|---|---|---|
| **Brucellosis** | • Infection occurs through exposure to bacteria via open wounds or ingestion. | • Infertility.<br>• Affects male and female reproductive tracts. | • Test and cull infected animals.<br>• Buy breeding stock from producers whose animals routinely test negative. |
| **Caseous Lymph-adenitis (CL)** | • Highly contagious bacteria.<br>• Inhaled or can enter the body through abrasions.<br>• Bacteria release toxins and cause abscesses. | • Cysts around the lymph nodes or inside the body.<br>• Commonly found around neck and jaw.<br>• May pop and reveal a yellow, chunky discharge. | • Cull animals that have abscesses.<br>• Vaccine is available.<br>• To prevent spread, do not break open cysts.<br>• Lives in soil, eradication difficult. |
| **Johne's Disease** | • Bacteria cause a thickening of the intestinal wall. | • Malabsorption of feedstuffs causes extreme weight loss.<br>• Can be lethal. | • Test and cull infected animals.<br>• Buy breeding stock from producers whose animals routinely test negative |
| **Orf (soremouth)** | • Highly contagious zoonotic virus.<br>• Contact with infected animal. | • Scabs around the mouth.<br>• Udder and other parts of the body may also become infected. | • Vaccine available.<br>• Quarantine new animals.<br>• Check for scabs before introduction. |
| **Polioencephalo-malacia (PEM)** | • Thiamine deficiency most common.<br>• Sulfur overload.<br>• Salt toxicity.<br>• Toxic plant ingestion.<br>• Grain overload.<br>• Clostridium bacteria. | • Swelling in the brain.<br>• Blindness, dilated pupils, elevated head in unnatural position ('star-gazing').<br>• Animals may be down and paddle their feet. | • High-quality mineral.<br>• Monitor water and feed ingestion closely.<br>• Switch feeds gradually. |
| **Urinary Calculi** | • Calcium to phosphorus imbalance in diet. | • Straining when urinating.<br>• Edema in lower abdomen.<br>• Common in castrated males. | • Add ammonium chloride in diet. |

## Parasite Management

Parasites are a significant concern in sheep production, often leading to reduced performance, anemia, and even mortality, particularly in lambs. Effective parasite control requires an integrated approach that combines pasture management, targeted treatment, and regular health monitoring. Producers whose sheep are struggling with parasites should work with a veterinarian or extension specialist to create a targeted deworming plan tailored to the farm's specific parasite challenges and resistance trends.

## External Parasites

External parasites, such as lice and mites, can cause discomfort, wool loss, and skin irritation. These pests are particularly problematic in overstocked or poorly managed pens, where transmission occurs easily. While external parasites are generally less severe than internal parasites, infestations can still affect flock performance and should be addressed promptly.

### *Prevention and Control*

- Routine flock inspections to detect early signs of infestation.
- Proper stocking densities to minimize direct contact transmission.
- Use of approved insecticides or topical treatments when infestations are detected.
- Shearing management to reduce parasite loads in wool-producing breeds.

## Internal Parasites

*Haemonchus contortus* (barber pole worm) is one of the most problematic internal parasites in sheep, particularly in grazing systems. This blood-sucking parasite causes severe anemia, weakness, and can be fatal if left untreated. Clinical signs include pale mucous membranes, bottle jaw (fluid accumulation under the jaw), weight loss, and weakness.

### *Prevention and Control*

- **Routine FAMACHA Scoring:** Assesses anemia by evaluating the color of the inner eyelid to help identify sheep that need treatment.
- **Fecal Egg Counts:** Measures parasite load and tracks treatment effectiveness through fecal egg analysis on high-risk individuals.
- **Selective Deworming:** Only treat sheep with high parasite burdens (FAMACHA score 3 or higher, or a confirmed elevated fecal egg counts) to minimize drug resistance.
- **Culling High Burden Sheep:** Remove chronically infected individuals from the flock to improve genetic resistance to parasitic infections.

### *Coccidiosis*

Coccidiosis is caused by *Eimeria* spp. and primarily affects young lambs raised in confinement or in heavily stocked environments. Unlike *Haemonchus contortus*, coccidia damage the intestinal lining, leading to diarrhea, weight loss, dehydration, and stunted growth. Early identification and management are essential to prevent production losses associated with coccidiosis outbreaks.

### Prevention and Control

- **Minimize Overcrowding:** Reduce stress and exposure by maintaining appropriate stocking densities.
- **Improve Sanitation:** Regularly clean feeding and watering areas to prevent fecal contamination.
- **Use Coccidiostats:** Medicated feeds containing Deccox (decoquinate) or Rumensin (monensin) can help prevent outbreaks.
- **Ensure Adequate Nutrition:** Lambs with poor nutrition are more susceptible to severe infections.

## Pasture Management for Parasite Control

Pasture rotation and strategic grazing play critical roles in reducing parasite burdens.

- Rotate pastures frequently, ensuring sheep do not graze below 5 inches of forage height, as parasite larvae typically reside in lower vegetation (below 4 inches).
- Rest pastures for approximately 60 days to break parasite life cycles.
- Leave freshly dewormed sheep in a dry lot for 24 hours before returning them to pasture to prevent resistant worms from contaminating grazing areas.
- Use selective deworming to maintain refugia (worms not exposed to anthelmintics) within parasite populations, which helps reduce the development of anthelmintic resistance.

Treating animals indiscriminately with dewormers is not recommended due to increasing incidences of resistance. Instead, selective treatment and pasture management are the most effective long-term strategies for sustainable parasite control.

## When to Cull Based on Health Issues

A semi-annual review of this checklist is recommended. Giving the flock a physical exam and reviewing records help producers best care for their flock. If an animal in question checks multiple boxes, it is recommended to cull.

### *For ewes:*

- ☐ Did the ewe test positive or show symptoms for any diseases such as brucellosis, CL, Johne's, or OPPv?
- ☐ Does the ewe show chronic respiratory symptoms?
- ☐ Does the ewe struggle with lameness issues?
- ☐ Does the ewe need treatment for disease or parasites above average for the flock?
- ☐ Does the ewe have poor vision?
- ☐ Does the ewe have poor teeth and will they inhibit her from maintaining condition all year round? Are they in worse condition than for the rest of the flock?
- ☐ Does the ewe have a high FAMACHA score and a poor worm load in her fecal float?
- ☐ Does the ewe have a lower body condition score than the rest of the flock?
- ☐ Does this ewe struggle with hoof rot or overgrown hooves more often than the rest of the flock?
- ☐ Does the ewe have at least one quadrant of the udder that does not milk? Are there any lumps or hardness in her udder?
- ☐ Did the ewe fail to breed multiple times in a row?
- ☐ Has the ewe struggled with dystocia problems at lambing?
- ☐ Is the ewe in the lower percentage for mothering abilities in the flock?

### *For rams:*

- ☐ Did the ram test positive or show symptoms for any diseases such as brucellosis, CL, Johne's, or OPPv?
- ☐ Does the ram show chronic respiratory symptoms?
- ☐ Does the ram struggle with lameness issues?
- ☐ Does the ram need treatment for disease or parasites above average for the flock?
- ☐ Does the ram have poor vision?
- ☐ Does the ram have teeth appropriate for the diet being fed and will they inhibit him from maintaining condition all year round? Are they in worse condition than the rest of the flock?
- ☐ Does the ram have a high FAMACHA score and a poor worm load in his fecal float?
- ☐ Does the ram have a lower body condition score than the rest of the flock?
- ☐ Does the ram have any swelling or malformed genitals when palpating?
- ☐ Does this ram struggle with hoof rot or overgrown hooves more often than the rest of the flock?
- ☐ Did the ram have any difficulties passing a breeding soundness exam?
  - This is typically conducted by a veterinarian
  - A physical exam of the animal is conducted, the tract is palpated, and semen quality is observed
- ☐ Has the ram had any difficulties breeding ewes?

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