

Management Practices for a Healthy Flock

Regularly Monitor your Flock:

Check your flock regularly. By paying close attention, the shepherd will become familiar with the normal behaviour of sheep and have a better chance of identifying and quickly dealing with any problems that may arise. Health problems that are caught and dealt with quickly will affect fewer animals and decrease losses in profitability.

Housed sheep should be inspected at least once a day. A convenient time to check your animals is just after feeding. Sick animals are generally less interested in eating and are likely to remain alone as other sheep move to the feeder. Lamé animals are also easily detected at this time. When the animals are at the feeder, check for indications of diarrhea (soiled fleece (tag) on the hindquarters). Check the pen floor and walls for anything unusual (blood, diarrhea) and make sure that there is water available. Ewes and lambs should be checked frequently through lambing and lactation. Sheep on pasture should be checked at regular intervals.

In addition to visual health checks, monitoring body condition when you normally handle the animals (e.g. vaccinating, deworming etc.) will help monitor the overall condition of the flock, and pinpoint any sheep that are excessively thin.

Each time you are in the barn or pasture, look for sheep that:

- Are not eating or ruminating
- Remain separated from the flock
- Look 'depressed': head down, droopy ears, dull eyes, hunched stance (back arched with forefeet and hindfeet placed close together under the animal)
- Look hollow (abdomen/flank is excessively concave and hook bones are prominent)
- Show signs of diarrhea (excessive tag or wetness on hindquarters are key signs, excessively watery or bloody diarrhea in the pen)
- Show signs of bloat (distension of abdomen, particularly high on the left side where the rumen is located)
- Show signs of respiratory distress (laboured breathing, nostrils distended, coughing, copious amounts of nasal discharge)
- Show signs of neurological disorders (uncoordinated, moving in circles, abnormal gait or head carriage)
- Show signs of lameness or stiffness

You may wish to separate and catch animals showing abnormal behaviour for a closer examination. Taking note of the following characteristics, as well as the animal's overall appearance, will help you determine what may be wrong. This is also important information to pass along to your vet, if you decide to call for help.

Age (different diseases will be more likely to occur in certain age groups)

Gender and reproductive state (e.g. ewes which are very heavily pregnant or that have just lambed)

Body temperature (normal for an adult is 100.9-103.8°F; lambs are normally higher than adults)

- A high body temperature indicates that the animal is stressed or the body is staging an immune response to an infection.
- A normal body temperature indicates that the problem is due to a non-infectious cause, such as a metabolic disorder
- A low body temperature in very young lambs indicates starvation, and in adults may indicate internal bleeding.

Body temperature can be taken by gently inserting a thermometer into the sheep's rectum. Using a bit of mineral oil or other non-toxic lubricant will make the process easier. Be sure to hold the thermometer while you are taking the temperature, to prevent it from become lost or broken. If you are using a glass thermometer it should remain in the animal for at least 60 to 90 seconds to ensure an accurate result. Digital thermometers signal when the temperature has stabilized (available at pharmacies).

Respiration rate (normal for a sheep is 12-20 respirations/minute) An abnormally high rate is an indication of distress caused by diseases that attack the respiratory tract (such as pneumonia or Maedi-Visna), or could be a sign of severe pain due to injury, etc. It is best to observe respiration rate before disturbing the animal, as the stress of being caught will naturally increase the count. The easiest way to determine the respiration rate is to watch the animal's abdomen and count each complete breath (i.e. 1 breath=1 inhalation + 1 exhalation). Respiration rate will be high in healthy animals that have been running, are stressed, or exposed to high ambient temperatures.

Heart Rate (normal for a sheep is 70-80/minute). Heart rate will increase under the same circumstances as the respiration rate.

Colour of mucus membranes (tissue around eyes and gums). Pale or bluish membranes indicate internal bleeding or poisoning.

Number of animals affected and pattern of affliction. (e.g. problems such as a lack of water or toxins in feed may acutely (suddenly) affect all animals in the pen, while infectious diseases may affect a small percentage of animals initially, and gradually move through the pen and/or barn.)

Reduce Environmental Stress

Stress and the incidence of disease

Many of the pathogens (viruses, bacteria, and protozoa) that cause disease in sheep are present in their everyday environment. A normal, healthy sheep that is well fed and given proper housing will generally be resistant to harmful infections by these pathogens. Undue stress, such as poor nutrition and unsanitary or poorly ventilated housing, will greatly reduce this natural resistance. This allows pathogens an opportunity to successfully invade the body. Some management practices you can use to reduce stress are:

Maintain a consistent routine

Sheep, like most livestock, are creatures of habit and perform best when managed with a consistent daily routine. Sudden changes in routines, surroundings, and feeding patterns will cause stress. This may lead to a decreased growth rate in lambs and poor reproduction rates in breeding animals, as well as increased susceptibility to disease. Try to have contingency plans in place to deal with sudden changes in temperature, weather or feed supply.

In particular, feeding practices should remain as consistent as possible. Various microbes in the rumen perform most of the feed digestion in sheep. Sudden changes in feed or irregular lengths of time between feedings may disrupt the microbe balance in the rumen and cause potentially fatal metabolic upsets. Changes in feed should be made gradually to avoid digestive disorders such as bloat and acidosis. For example, if you want to increase lamb growth by feeding a high grain diet, increase the allotment of grain by a small amount each day over a few weeks until you reach the desired level.

Maintaining Facilities to Minimize Stress

Proper facilities and housing practices are important for disease prevention. Animals that are overcrowded or not provided adequate shelter will have a greater susceptibility to illness. Be aware that there are provincial regulations in place regarding animal housing and operations, particularly dealing

with manure management and environmental concerns. Building plans and recommendations for housing are available from OMAFRA.

General Housing

- Adult sheep need less protection from the cold than lambs, and often do well outdoors during the winter if provided with sufficient windbreaks and bedding. An insulated, well ventilated barn or shed is preferable for intensive confinement rearing or lambing in winter
- Provide good drainage from buildings and corrals to prevent the build-up of disease-causing organisms, which thrive in poorly drained soil
- Provide easy access for manure removal.
- Good ventilation is essential to prevent a build-up of foul air, heat and moisture. Poor ventilation is a leading cause of pneumonia outbreaks.
- Maintain buildings, corrals and fences to prevent injuries to the sheep.
- Have adequate quarantine pens for housing sick or new animals to prevent mixing with the rest of the flock

Lambing Facilities

- Lambs are born with little protection against the cold. If you are lambing during the winter months, plan to have your ewes lamb in a warm, sheltered facility to prevent neonatal losses.
- Although ventilation must be adequate to prevent pneumonia, ensure there are no drafts directly into pens housing young lambs. Check for drafts and ammonia odours at 'lamb height'.
- Poor drainage and sanitation of the lambing or mothering pens will lead to the accumulation of disease causing organisms. Provide sufficient bedding and remove manure regularly to keep pens clean and dry.
- Lambing and mothering pens should be draft free but not excessively warm if lambs are going to be moved to colder areas.
- Overcrowding lambs can increase stress and the spread of disease. See the Code of Practice at the end of this binder for recommendations on the space requirements for housing lambs.

Handling Facilities

- Good chutes and handling equipment will greatly ease the task of moving and treating sheep.
- Design equipment to minimize stress on sheep and handlers.
- Avoid using dogs that unnecessarily harass or injure sheep.
- Maintain handling facilities to minimize injuries to sheep (fix loose boards, sharp edges etc.).

Water Supply

Water is an extremely important part of the diet. Sheep, like all mammals, will die much sooner if denied water than any other nutrient. **Check water sources daily.** If using automatic waterers, check that the water is flowing and that the bowl is free of contaminants (hay, straw or feces). Feed intake is dramatically affected by water intake. An indication that there is a problem with the water supply is that all of the animals in the pen will go off feed. If the water is unpalatable due to contaminants, sheep may drink enough to stay alive, but production will suffer as feed intake decreases. Lactating ewes require an ample supply of good quality water to ensure a steady milk supply for good lamb growth.

Observe the following practices to ensure a reliable water supply to your flock:

- Check and clean waters daily.
- Minimize manure contamination of water by locating waterers at an appropriate height. This will help decrease the transmission of parasites such as coccidiosis, and will improve water intake.

- Have a concrete pad or adequate drainage around watering troughs to prevent foot infections and coccidiosis.
- Send a water sample for analysis at least every two years to determine the levels of nitrates, copper sulfate, and total solids.
- If ponds are used as a water source, monitor the levels of blue-green algae, as high levels may be fatal.

Feeding Facilities

- Use feeders that minimize fecal contamination by preventing sheep from walking on feed. Fence line feeders, feed racks, and self feeders help control disease and parasite problems by keeping feed off of the ground, as well as reducing feed wastage.
- Set up bunks in a manner that allows for easy cleaning and for easy feeding (avoid having to enter the pens to feed the animals).
- Clean bunks as necessary (i.e. spoiled silage, wet grain etc. may be a health risk)
- Allow adequate feeder space so that all animals have equal access to feed. Animals that are not receiving enough feed will be malnourished and more susceptible to disease. Larger lambs that have greater access to feed are more susceptible to clostridial diseases.

Feed Quality and Nutrition

- Providing proper nutrition will greatly increase the health of your sheep, through increased disease resistance and prevention of nutritional and digestive upsets.

Manure Management

- Proper manure management in sheep housing areas helps prevent the build-up of disease-causing organisms and keeps sheep clean and dry. Check the air quality at ‘sheep level’ often to ensure ammonia odours are minimal. Some producers remove manure from sheep housing areas regularly. Others prefer to use a manure pack that is cleaned out once or twice through the season. If you are using a manure pack, be sure to add dry bedding as necessary to prevent the surface from becoming damp.
- Store manure away from buildings and corrals to prevent run-off into sheep housing areas, water sources, and feed supplies. Take precautions when spreading manure to prevent contamination of water sources and oversupplying nutrients to soil. Check the provincial regulations regarding manure storage and consider implementing a nutrient management plan on your farm.

Transportation

Reduce stress during transportation by:

- Loading the truck or trailer appropriately. Sheep tend to push into a corner as a group when panicked, and it is not uncommon to have sheep (particularly lambs) become trapped and die if precautions are not taken during transport. If there are an appropriate number of animals for the space, chances are lessened that lambs will lose their footing and be suffocated. Using separation gates to divide large trailers and avoiding overcrowding will help reduce stress and trampling during transport.
- Thoroughly cleaning vehicles used to transport potential hazardous materials (e.g. farm chemicals, treated seed etc.) before loading sheep.
- Providing sufficient bedding to improve footing and to keep animals clean.
- Clean and disinfecting vehicles after transporting animals.

- Avoiding transporting animals in extreme temperatures.
- Do not transport ‘downer’ animals or those likely to go down during shipping.

Livestock Biosecurity

A ‘Foreign Animal Disease’ (FAD) in your flock can have a devastating effect on the health and welfare of your livestock, and the economic viability of your business.

The same is true for every flock in Canada. We have only to look at the foot and mouth disease experience in the UK to see that an outbreak in Canada would permanently alter your business and cost billions to Canada’s livestock industry.

You can reduce the chance of an outbreak – or the impact, if it occurs – by having your own biosecurity program.

WHAT IS IT? A management program to prevent the spread of disease

WHY DO IT? **To reduce – in your flock and the national flock:**

- **The chance of introducing disease;**
- **The spread of disease, and;**
- **The cost of disease.**

HOW TO DO IT? As part of the management program for your operation. Consider your inputs, the products you produce, the assets you manage (i.e. the livestock, feed, equipment, and buildings), and the costs and risks you are prepared to bear.

WHERE TO GET HELP? From your veterinarian, commodity group, provincial veterinary service, the CFIA, and the Canadian Animal Health Coalition.

WHEN TO DO IT? **Now.** Implement a control program for your operation right away...and keep it current.

WHO HAS TO DO IT? **You.** You are responsible for animal health on your operation – that is a critical control point in preventing or controlling the spread of disease to the national flock.

Your program will assist those responding to a major outbreak

Do your part...

Prevent foreign animal diseases from entering Canada...

Implement a biosecurity program.

Contact Canadian Animal Health Coalition

‘...promoting a collaborative approach to animal health’

www.animalhealth.ca

This bulletin supported by the Western CARD Council

Your Livestock Biosecurity Checklist

Visitors

- Control traffic on and off the farm**
- Post prominent signs** to restrict access and provide directions to the farm office.
- Discourage unnecessary visitors**
 - All visitors must be accompanied, and prohibited or limited from accessing structures or pens containing animals, medications or feed
- Keep a ‘visitor log’**
 - All visitors, service calls and deliveries – no exceptions
 - Date, name, business, contact information, next farm visit, previous farm visit (see www.animalhealth.ca)
- Ask visitors to arrive in clean clothes**, footwear, and vehicles
 - On arrival, instruct visitors as to your sanitation practices
 - Provide clean clothes and footwear if this condition is not met
- Discuss visitors from other countries** with your veterinarian or the CFIA, to assess the risk and appropriate measures

Livestock

- Purchase healthy livestock** from reputable suppliers following good management practices and recognized on-farm food safety programs
- Isolate purchased livestock** for a minimum of 2 weeks
- Purchase quality feed** from feed mills that follow good manufacturing practices
- Separate sick from healthy animals**
- Deadstock should be**
 - Removed immediately from other animals
 - Disposed of as soon as possible according to provincial regulations
 - **Necropsied to confirm cause of death**, if you suspect a contagious and/or reportable disease

Sanitation

- Keep clean...**all personnel, buildings, yards, equipment, instruments, feed storage areas, and feed equipment
- Disinfecting**
 - Choose the right product for the job
 - Clean items with warm water and detergent, before disinfecting
- Use disposable equipment** once, and discard

Wildlife & Pests

- Control or eliminate vermin**
- Protect your feed and water supplies** from fecal contamination by wildlife

Valid Veterinary-Client Relationship

Establishing a valid veterinary-client relationship helps ensure that your veterinarian will be familiar with your flock and management practices, in the event that a problem occurs.

A valid patient/client/practitioner relationship exists when:

(Source: Canadian Veterinary Medical Association)

- The veterinarian has assumed the responsibility for making medical judgments regarding the health of the animals and the need for medical treatment, and the client (owner/caretaker) has agreed to follow the instructions of the veterinarian
- There is sufficient knowledge of the animal(s) by the veterinarian to initiate at least a general or preliminary diagnosis of the medical condition of the animal(s) by virtue of an examination of the animal(s) and/or by medically appropriate and timely visits to the premises where the animal(s) are kept
- The practising veterinarian is readily available for follow-up in case of adverse reactions or failure of the regimen of therapy.