

Predation Management Fact Sheet

Developed by the Saskatchewan Sheep Development Board in
conjunction with the Saskatchewan Ministry of Agriculture



Saskatchewan

Sheep Development Board

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**Saskatchewan
Ministry of
Agriculture**



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Predation Management

Fact Sheet

Predation is a huge issue for the lamb industry. It will never be eliminated entirely so producers must learn to manage predation as best as they can. Predation requires a comprehensive approach as there isn't a single solution. Education and prevention must be a part of the management approach to predation.

Understanding Coyote Behavior

- Not all coyotes are killers.
- Coyotes are opportunists looking for the easiest food source; studies have shown that rotting flesh from dead animals (carrion) provides 2/3 of the coyotes winter diet.
- Coyotes are territorial; territories are generally about 3 sq miles in size and may overlap slightly into the next territory.
- Territorial pairs are most implicated in predation incidences, particularly while feeding pups.
- If coyotes or select problem animals are removed from an area, it is only a matter of time before other coyotes invade the territory.



- Coyotes may be seen with livestock as they move through their territory and not be problem animals.
- A coyote's primary method of kill is to attack sheep by the throat and cause death by suffocation.
- Coyote dens are usually located within 400 m of water, often on a south-facing slope.
- Coyotes may dig their own den or use an abandoned badger den.
- Dens are typically concealed by shrubbery.

Reduce the Risk

- Proper dead stock management.
- Removal of specific problem coyotes.
- Use of guardian animals.
- Use of predation fencing.
- Night penning.
- Use of scare or noise deterrents such as scare crows, cannons, radios, or lights.
- Protect resident animals that are not causing depredation.
- Smoke bomb dens in spring to remove predator.
- Learn how to recognize a predation kill.
- Regularly check your stock for indications of a predator problem.
- Small or weak livestock should be kept from pasture as they are easy targets, remember coyotes are opportunists.
- Maintain definite breeding seasons, try not to prolong lambing season.
- Avoid placing your stock in high risk areas or pastures where surveillance is difficult; smaller intense grazing paddocks can help with surveillance.

Deadstock Management

Deadstock and slaughter waste left uncontained or exposed can attract scavengers to the area and may increase the risk of livestock predation once the food supply runs out. Failing to clean up deadstock can also create nuisance, promote the spread of disease and contaminate water resources.

Producers have several options for dealing with livestock mortalities, including burial (in-ground or in-vessel), composting or incineration. Rendering is an option for some livestock species though sheep carcasses generally are not accepted by the processors.

Burial

Burial is a common and acceptable method to manage deadstock. Timely burial is a simple, effective and low-cost method for disposing of carcasses. A burial trench is a common configuration, as both animals and backfill can easily be placed with a front-end loader. Cover the carcass with a sufficient amount of soil to reduce scavengers and nuisance issues like odour and flies.

Burial needs to occur on an appropriate site. As carcasses decompose, they release fluids (known as leachate). In coarse grained soils, this leachate can migrate and contaminate shallow groundwater sources. Burial is only recommended at locations with a sufficient depth of clay or clay till and not recommended if sand or gravel is encountered.

Producers planning to use burial over the winter months will need to plan ahead as digging a pit in frozen ground is difficult. Typically pits would be excavated in the fall and backfilled in the spring once the soil thaws. In order to estimate burial pit volume, a general rule is approximately one cubic yard per 1,000 pounds of carcass. A temporary cover should be constructed to keep scavengers out and prevent snow from filling the pit.

Burial sites should be well-marked to prevent accidental driving or falling into the pit – especially in the winter. The location of the pit must be accessible to equipment during winter conditions. Alternatively, carcasses can be stored in a suitable manner over winter and buried in the spring.

As part of your farm safety program, underground lines should be located prior to any excavation work.

In-Vessel Burial

A disposal vessel is an effective and relatively inexpensive method of managing deadstock, particularly for smaller carcasses like sheep. A disposal vessel is essentially a scavenger-proof container that is installed below or partially below grade; for example, a vertically-placed culvert. Typically, a lid is fashioned at the top of the vessel for easy access, and vents should be installed to prevent the buildup of potentially harmful gases. Carcasses are placed in the vessel and covered with a thin layer of material (soil or straw) to reduce odour. Once the vessel is full it is capped with soil. Over time the carcasses will decompose.

Disposal vessels are a good option for producers who are considering burial but are located in areas with coarse grained soils and shallow groundwater. In this case, a leak-proof container can be used to ensure fluids from the carcasses cannot come in contact with groundwater.

Composting

Mortality composting is the decomposing of dead animals to result in a stable material that can be applied to land as fertilizer. Composting is also relatively inexpensive, but requires time and careful management to be effective. An improperly managed compost area can create nuisance issues and result in complaints.

Several configurations may be used to compost mortalities, simple pile or windrow configurations, bin systems, or more elaborate manufactured systems. Pile, bin and windrow systems should be designed (i.e. fenced, enclosed with bales) to prevent access by scavengers as the process takes time for the carcass to break down. The compost area should be selected to ensure leachate from the decomposing carcass cannot run-off and impact surface water or leach into shallow groundwater resources.

Effective composting requires a carbon-based bulking material (like straw, wood chips, shavings or manure) with adequate moisture content. Composting mortalities is similar to composting manure however, the compost is disturbed less frequently and the process can take significantly longer to reach a finished product.

Incineration

Incineration can be a convenient and effective way to dispose of carcasses. Incinerators are more commonly used by large poultry and hog operations, as their high capital and operating cost are often too expensive for smaller producers. Incinerators are regulated by Saskatchewan's Ministry of Environment under *The Clean Air Act*. A permit may be required to operate an incinerator.

Regardless of the disposal method, dealing with the carcass in a timely manner and preventing access by scavengers to a food source are keys to reducing predation of livestock.

For more information consult the *Mortalities Handling Guide* document available on the Saskatchewan Agriculture website at www.agriculture.gov.sk.ca or contact:

Teddi Dear, Provincial Livestock Engineer,
Saskatchewan Ministry of Agriculture,
(306)933-5357 for technical assistance on selecting a disposal method or determining a suitable site for burial.

Options for Removal of Select Problem Animals

- Calling and shooting: This entails the use of calling equipment to lure the animal close enough to remove by shooting.
- Denning: The process of locating the coyote den and placing smoke bombs into the den to destroy the inhabitants of the den. Ideally used in spring when pups are young.
- Snaring: The art of locating the animals trail and placing a snare along the trail to catch the animal around the neck.
- Trapping: The art of placing an approved trap in the appropriate location to be able to trap the desired animal.
- Bait stations: The predator is lured to a desired location for the purposes of shooting, trapping or snaring. This works best in winter time when the food source is more limited. This method is used for a select period of time and then cleaned up to prevent new problem coyotes from moving into the territory.
- Compound 1080: This method is often the "last resort" method for removal of problem animals. Compound 1080 is a restricted product; contact Saskatchewan Crop Insurance Corporation (SCIC) for more information.

Individuals requiring removal of a predator need to understand that the removal of select animals is an art form and best left for the experienced and knowledgeable. Consider seeking help from a knowledgeable individual before attempting this type of management method. For more information a brochure titled Predation Management Options brochure is available through the Saskatchewan Sheep Development Board and the Ministry of Agriculture.

The Use of Guardian Animals

Guardian Dogs

Guardian dogs are the most common guardian animal used on the farm today. The most common breeds used are: Great Pyrenees, Akbash, Maremma, Kuvasz and Anatolian Shepherd or a cross breed of these varieties.



Great Pyrenees

For guardian dogs to be effective one must use good management practices. These guardian dogs will bond to most anything. At a young age the pup must be placed and housed in close proximity to the livestock you wish it to bond with.

Benefits of Guardian Dogs

A good guardian dog is an effective tool for reducing predation as they have become part of the flock and will remain with the flock. These dogs are nocturnal and will alert the producer to other disturbances as well as protect farm property. A guardian dog provides an increase in land available for production thus increasing profitability and reducing producer labour. All of this ensures a more profitable operation and peace of mind for the producer.

Do's

- Make sure a young pup can escape from livestock for protection; you don't want the pup to fear the livestock.
- Discipline the pup.
- Use a mature dog to train a pup.
- Purchase pups from a reputable breeder.
- Purchase guardian dog breeds.
- Worm and vaccinate dogs as recommended.
- Train the dog to accept human contact for the maintenance of it's health, treatment, and condition scoring.
- Feed properly.
- Be patient in training and bonding.
- Use an adequate number of dogs for success.
- Dog should be neutered or spayed.

Don'ts

- Excessively handle the pup.
- Feed them dead stock unless properly prepared.
- Make them into pets.
- Ignore their health.
- Assume the dog is doing it's job, observe them at work.

Guardian Dogs and C.ovis

Guardian Dogs are very effective; however, there is one management practice that must be adhered to reduce the occurrence of C.ovis (Sheep Measles) in your flock. The producer needs to regularly worm the dogs with an approved wormer.

What is C.ovis? C.ovis is a form of canine adult tapeworm.

What is the concern? C. ovis larvae migrate to the muscle where a cyst forms and causes condemnation of the carcass.

How is C.ovis prevented? Proper dead stock management and routine worming of the dog.

Drugs available: Lopatol or Drontal tablets are most common, contact your veterinarian for options.

Additional information is available from the Livestock Guardian Dogs Brochure available through the Saskatchewan Sheep Development Board and the Ministry of Agriculture.

Llama

The llama can be very effective as it works independently, requires no additional feed products and can't cross fences. It isn't nocturnal or as consistent as the dog. Most of the llama's success is dependant on their alarm capabilities. Because they will bond to each other when in large groups, it is more effective in a smaller area.

Donkey

The donkey requires no additional feeding. Intact jacks are too aggressive for guarding; as well donkeys may trample the young lambs.

One donkey per pasture is recommended, if there is more than one they will bond to each other and wander off. Some of the feeds for sheep have the potential to harm the donkey. The feet of the donkey must be trimmed regularly.

Recognizing a Predator Kill

Being able to identify a predation kill is essential to managing predation. Often coyotes are blamed for kills or injuries that they have not committed. Injuries to stock can be caused by dogs. Producers may think they have a predation problem when really the death was not caused by predation the animal was simply scavenged postmortem. A large part of the coyotes diet is carrion.

It can be difficult to determine the cause of death.

Things to look for when you suspect predation

- Carefully inspect the area around the carcass for evidence of a struggle. Signs of struggling prey include broken or trampled vegetation, drag marks and blood.
- Inspect the carcass for teeth or puncture marks, claw marks or tears, bruising or hemorrhaging. Dead animals will neither hemorrhage or bruise.

In the case of a newborn lamb

- Did the animal breath prior to its death? If so the lungs will be pink and feel light and will float on water, if not they will be dark purplish red and will sink in water.
- Did it walk? The soft membrane on the bottom of the foot will wear off quickly when the animal begins to walk.
- Did it nurse? Look for evidence of milk in the stomach.

Signs associated with a predation attack

- Alert nervous livestock.
- Injured livestock
- Frantic mother looking for her young.
- Predator evidence, hair and feces.
- Holes and paths under fences.
- Fresh predator tracks.

Signs associated with a dog attack

- Dogs normally do not need to kill to eat or for survival, therefore the killing will not be efficient or well executed.
- Kills are often very messy, with lots of blood and damage to the animal. Coyotes will generally go for the neck, suffocate the animal and hence a clean kill.
- Dogs will kill for the fun of killing; generally killing many animals and will not eat much of what they have killed.
- Dogs are not efficient killers; they often will severely injure an animal and move on.
- Predation is often just a sport for dogs.

Predation Assistance for Producers

Saskatchewan predation programs are administered through Saskatchewan Crop Insurance Corporation (SCIC). For more detailed information and assistance with The Wildlife Damage Program producers can call their local SCIC Customer Service office. There are 3 main components of Predation Assistance; producer education, prevention strategies and predation compensation.

The Wildlife Damage Program

Prevention

SCIC can help producers manage their predator attacks through control measures designed to reduce the problem wildlife. As part of an overall strategy to help protect farmed livestock, SCIC can hire predation specialists who will come to the producer's operation and take steps to eliminate the predator problem. These predation specialists are experienced hunters and trappers who can provide effective control of problem wildlife. They can also provide advice and develop strategies to help protect livestock from further attacks.

SCIC can provide \$100 to help producers offset the cost of purchasing a livestock guardian dog. The use of guardian dogs can be a very effective method of preventing predation; however, it does require the commitment from the producer to develop the potential of the dog. Livestock guardian dogs are most effective when complemented by other predation management practices. Producers requesting this funding should contact a SCIC customer service office.

Producer Obligations

Producers are expected to implement the predator control measures recommended by the specialist and, in general, follow good livestock husbandry practices to minimize the potential for predator problems. Failure to fulfill these responsibilities will result in a producer being denied further predator control services or compensation.

Predation Compensation

- 100 per cent compensation for death of livestock or poultry due to predation.
- If an animal's carcass cannot be found or no evidence to prove a predator attack occurred, compensation may not be paid.
- In the event livestock are injured, producers can receive up to 80 percent of the animal's value to cover veterinary costs.
- If predation is suspected but cannot be confirmed, 50 percent compensation will be provided.
- Compensation is available on predation by coyotes, bears, cougars, lynx, foxes, wolves, eagles or any other wild animal that causes injury or death to eligible livestock. A minimum compensation level is established for sheep and goats.
- Compensation for other species will be determined using market sales data. Prices will be set using months when sales volumes are high. Rates will be determined on an as-needed basis for uncommon species.
- Registered livestock will be valued higher than commercial livestock.

Producer Obligations

- Producers must report the suspected predation incident as soon as possible to their local SCIC customer service office.
- Producers are expected to utilize the prevention programs that are recommended and available to help protect their livestock from predators.
- Receipts for veterinary costs and drug expenses should be retained as evidence of treatment.
- A carcass or sufficient evidence of an attack is required for a claim to be initiated.
- Producers with purebred livestock and poultry will be required to provide evidence of the livestock's value.

Fencing Assistance

Producers can receive assistance for fencing to help prevent predation. Assistance is provided through the Canada-Saskatchewan Farm Stewardship Program. For more details and an application go to the PCAB website <http://saskpcab.com/> or call 1-866-298-7222.

References:

Teddi Dear, Provincial Livestock Engineer, Saskatchewan Ministry of Agriculture,

Gord Schroeder Saskatchewan Sheep Development Board

Saskatchewan Crop Insurance Corporation

Saskatchewan Ministry of Agriculture

Contacts:

Saskatchewan Sheep Development Board

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Saskatchewan Ministry of Agriculture

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(306) 787-2150	Regina, SK S4S 0B1
Livestock Branch - Saskatoon	3830 Thatcher Avenue
(306) 933-5992	Saskatoon, SK S7K 2H6
www.agriculture.gov.sk.ca	

SCIC

Wildlife Damage Program
 Claims: 1-888-935-0000 or visit one of the 21 SCIC offices
 customer.service@scic.gov.sk.ca
<http://www.saskcropinsurance.com/wildlife>

Agriculture Knowledge Centre

1-(866) 457-2377
 aginfo@gov.sk.ca

Canada-Saskatchewan Farm Stewardship Program

Fencing Assistance
 1-866-298-7222
 www.saskpcab.com
<http://saskpcab.com/farm-stewardship/>

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