COYOTE PREDATION CONTROL

MANUAL and STUDY GUIDE

Revised December 2017

Alberta Agriculture and Forestry
Food Safety and Technology Division
Animal Health and Assurance Branch
Inspection and Investigation Section

Sections of this manual are taken from Coyote Predation of Livestock, Alberta Agriculture and Forestry (Agdex 684-19)

Inspection and Investigation Section reserves the right to change this manual without notification.

Alberta

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Introduction

Coyote predation is a concern of all livestock producers. Loses throughout the province are considerable and directly affect the producer's bottom line.

Various control methods are available for the control of coyotes including poisons, trapping, livestock management, and hunting. This manual will deal in length with the use of poisons.

The public today is very environmentally conscious and demands that any form of toxicant only be used when necessary. Care must be given when using toxicants to ensure that non- target animals and the environment are not adversely affected.

Animal Health and Assurance Branch of Agriculture and Forestry (AF) regulates and is responsible for safe and proper use of these restricted compounds. AF is bound by the Federal Pest Management Regulatory Agency (PMRA) to ensure all federal label requirements are closely followed, and all provincial regulations in the *Agricultural Pests Act* are adhered to. In order to administer these restricted materials safely, and limit the effects of poison on non- target wildlife, AF requires anyone issuing, using, or handling coyote control devices to be trained and possess a valid "Form 7 Permit".

Those who hold a "Form 7 Permit" are expected to know and understand the regulations and label requirements of these control devices. Producers receiving these materials are to be advised on how to handle devices properly to ensure no person or non-target animal is placed at undue risk. The objective of this manual is to inform "Form 7 Permit" holders as to when, how, and what control devices to issue for a coyote control problem.

Coyotes: Species Profile

Species name: Coyote *canis latrans*

1. Historical background

With the arrival of agriculture, the coyote has increased its habitat area, population, and density in Alberta. Settlers and their activities generally have caused a decrease in large competitive carnivores, and an increase in food supply for the coyote. A winter feed source from dead livestock has been a significant factor in enabling coyotes to increase in both densities and range.

Early livestock producers (particularly sheep producers) viewed the coyote as a threat to their livelihood. They convinced the Department of Agriculture to consider the coyote a pest and to develop control programs to reduce coyote predation on livestock. Fur trappers desired the valuable pelts of the coyote and utilized this resource abundantly. Others admired the cunning, curious, and wily nature of this wildlife species.

In the mid 20th century the coyote was declared a pest and poison-baiting programs were initiated to reduce their numbers. They did not have status as a wildlife species. The government, livestock producers, hunters, and trappers all combined forces to attack the coyote, which resulted in a somewhat limited reduction on the general population.

As agriculture and the general population became more environmentally conscious, the status of the coyote changed from a hunted canine to a valuable wildlife resource and an agricultural nuisance. Populations are now maintained by available food supply and fur harvest management. The most determining factor is the availability of food during the winter season.

Agriculture has used to livestock husbandry and winter carrion disposal as the first line of defense against predation, with lethal control as a last resort. The use of toxicants has steadily decreased with only a fraction being used today. Coyote control targets the individual offending coyote on specific ranches, and utilizes sound livestock management in conjunction with selective toxicant use.

The coyote's impact on society has migrated to the urban setting from a strictly rural, agricultural concern. Resolution of concerns in the urban setting is becoming a challenge to wildlife managers. The development of urban sprawl with large areas of wildlife habitat and limited control measures has resulted in an increasing conflict between landowners and coyotes.

2. Biological Information

The coyote has many names: brush wolf, prairie wolf, barking wolf, heul wolf, and American jackal. It is a slender canine weighing between 10 to 22 kilograms, with pointed nose and ears, slender legs with small feet, and a bushy tail. Coloration of the coyote varies considerably between individuals, and range from a light buff-gray to a dark grey with black tones. The under parts are typically whitish and the upper parts have black tipped hairs with strong accents of black towards the tip of the tail. Some individuals have reddish tints to the outside of the legs and face. A coyote stands about 65 centimetres at the shoulder, and is 1.3 metres long including a 25 to 40 centimetre tail.

The romantic howl and yip of the coyote is a familiar sound to most people dwelling in rural areas. The coyote's sharp bark is known as a signal to danger. The song of the coyote is a sound that evokes a vision of picturesque wilderness and beauty to most people; even those who are recipients of its predation. The coyote's ability to adapt and its fertility have made it a well-established species almost everywhere in North America, from deserts to mountains, and coastal forests to plains.

The coyote is one of the most aggressive North American carnivores, and is capable of preying on small animals, the young of most large ungulates, and domestic stock of all kinds. They eat fruit, insects and carrion to balance out their diet and will eat just about anything that is available.

Their cunning and adaptability make their management and control difficult to achieve. They are considered one of the most intelligent of all animals on the North American continent. Learned behavior is extremely keen in the coyote species making control of individual coyotes challenging.

Coyotes are often monogamous for life and breed in February, subject to local conditions (January in warmer locales to March in cooler locales) and give birth 63 days later. Coyotes are sexually mature at one year of age but often do not reproduce until their second year. They readily cross with domestic canines when breeding season arrives, but the resulting coy-dogs are infertile.

Litter size averages about five, with up to 17, pups that are born sightless and brown in colour. The pups stay inside the den for the first two weeks of life, and then start to venture out further each day.

Both parents care for the young. The male is capable of feeding the pups as soon as milk is not a necessity. Rodents make up a large percentage of their diet, but any small animal, dead or alive is fed during pup rearing.

Maternal dens are often the old dens of other animals or coyotes. Coyotes seldom dig new dens. Dens are often concealed using topographical relief, like brush cover, fence lines, rock piles, and other geographical features to hide their location. The den site is kept very clean of food and feces. The only signs of habitation are packed-down earth and grass, with the occasional stick or bone used to chew on.

The young remain in the maternal den for up to two months then are moved to other holes, brush piles, culverts, rock piles, or other places of refuge for the little coyotes. The adults only frequent dens for the first 2-4 weeks after whelping, and then nursing and feeding takes place outside the den entrance. An extraordinary amount of food is required, due to the large amount of energy used to raise the young during whelping.

It is at this time that predation pressure on domestic stock is greatest. Pups start eating solid food from regurgitated female carrion at about three weeks of age or small mammals are brought back to the den site by the male. Pups learn to catch and eat insects early in life and grasshoppers can constitute a significant part of their diet.

The reproductive potential of the coyote is extremely high and can compensate for 75% yearly reduction in population by producing high litter numbers and a great number of first year breeders. Conversely a low food supply with a high population causes the coyotes to produce low litter size and few pregnant females.

The family group stays together until late fall when dispersal of the juveniles begins. Occasionally, a juvenile will stay with his parents through the breeding season and even into the next spring's whelping.

The home range of the coyote is quite variable depending on terrain and food supply. A three to eight square kilometre area is the norm with a density rate of approximately 0.1 to one coyote per square kilometre. With these varied differences in densities and home ranges every individual area can deal with only a few to many coyotes. Determining these population densities is not easy and challenges wildlife managers, thus making sound decisions in management and control difficult and controversial.

3. Predation and Economic Impact

Since the early pioneer days, the coyote has been killed and targeted by stockmen and hunters throughout Alberta for predation on domestic stock. Yet after decades of destruction from all manner of schemes and devices, from poisons to bounties, the coyote remains abundant and healthy. The coyote has survived all efforts to exterminate it, and is now revered for its resilience and majesty.

There have been many detailed studies on coyote predation of domestic stock and wildlife. There is no doubt that coyotes are capable, and often attack lambs, kids, calves, sheep, goats, pigs, and poultry. They also take the young of wild ungulates, mostly deer and antelope. Their greatest impact traditionally has been on the sheep industry. Livestock losses were well documented in Alberta from 1971-1980 and the loss ranged from $300,000 to $800,000 per year of actual livestock killed and documented. The industry and government has responded and as a result the losses are much less today.

Agriculture has changed considerably over the last 35 years with confined feeding operations, larger farms, and improved animal husbandry. All of these factors have limited the impact of coyote predation, particularly in the sheep, goat, hog, and poultry industries.

Currently, the cattle industry suffers the most, mainly through economic losses to coyote predation during the calving season. Although debatable, it has been attributed to:

- the coyote turning more to calves because there is less open range of other domestic stock.
- the sheep industry adapting their industry to cope with coyote predation.
- coyote management improving significantly.

Complaints from the agricultural community have decreased over the years along with the amount of pesticides issued.

Coyote damage in the urban community is of a different nature. Rather than economic losses, the coyote is accused of social disruption and the killing of pets. The impact is emotional and protective rather than financial. It is difficult to put a value on pet safety and peace of mind, making the management of the coyote acquiring a whole new dimension. In the past, human safety has not been a proven concern. However, it is real and when wildlife is in close proximity to pets and children, the safety and possibility of attacks on children must be considered. Also, the disruption of joggers, park strollers, and wildlife watchers becomes a concern for coyote managers.

There is also the concern for safety at airports. Due to the potential of disastrous consequences if coyotes are roaming in the vicinity, prevention of any contact with airplanes receives a high priority.

4. Coyote Management

Historically, coyote management was achieved by lowering coyote populations through:

1. trapping,
2. shooting, and
3. poisoning.

Little concern was given to sustaining coyote numbers or managing populations at any natural level. Fortunately, the coyote has been able to withstand any control and there has been little overall impact on its population. However, the species is now recognized as a valuable part of our environment and an integral part of our heritage. The coyote must be managed with the best methods possible.

A) Livestock Husbandry

The first consideration, when conflict exists between livestock and coyotes, is the management of livestock to prevent situations that induce or invite predation. Sound husbandry practices reduce interactions between livestock and coyotes. Land use practices must be analyzed and the best use patterns considered before coyote conflicts arise.

Open grazing on public lands require that the most sophisticated livestock husbandry practices are being implemented. Any open grazing should be analyzed for sound management, economic, and livestock husbandry practices before considering coyote control. The following play an important role in reducing coyote conflicts with livestock:

- herd surveillance
- corralling at night
- carrion disposal
- age classing
- use of guard animals.

Utilizing mature animals, and ensuring the animals are healthy and robust before being placed in a predation environment assists in reducing coyote predation.

<u>Herd Surveillance</u>

Herd surveillance can require a herder to be constantly with a large flock of sheep on open range, or merely attending the flock once a day to ensure they are cared for. When lambs are small, multiple visits should be conducted until they become strong enough to defend themselves.

First time calvers should not be left unattended in an open range situation and require much more surveillance than mature cows. The constant presence of a livestock manager contributes considerably to the reduction in coyote conflicts. Brush cover also plays an important role in the probability of coyote attacks. In heavy brush conditions, compensate by increasing livestock husbandry practices to minimize the threat of predation.

<u>Corralling at Night</u>

Corralling at night is a necessary practice with sheep in open range situations, and should be considered where a flock is grazing in open pasture habituated by coyotes. Frequent pen checks are a necessary management practice for sheep producers. Identifying problems early can be a great advantage.

When checking sheep, take note of their behavior. Repeated attacks will change their behavior. Are your sheep more nervous, alert, or fearful than usual? Also take note of whether the sheep are more scattered or split into groups, or anything that is uncharacteristic of your flock or breed of sheep. Cattle do not require such practices and are relatively safe from coyote attacks, except during the calving season.

Carrion Disposal

Livestock carrion removal can play a role in reducing predator dependence on domestic stock. A dependence on livestock for a predator's food source, particularly in the winter months, can develop if there is an available source of livestock carrion. Also weak or sick animals can entice a predator to develop a dependence on livestock as a food supply. Coyote predation on livestock is a learned behavior and anything that impedes, disturbs, or prevents this process, such as the removal of livestock carrion, will reduce livestock losses.

Even if coyotes are not feeding on the carrion, the mere presence of dead animals can entice coyotes to remain in the area, and thus initiate the predation learning process.

Age Classing

Age classing for protection of young animals is another method of livestock husbandry that needs to be considered in reducing the potential for coyote predation. Not putting young lambs on summer open pasture greatly reduces the probability of predation. Feedloting lambs and placing young lambs and calves in close small pastures before placing them out on summer range can reduce the pressure of predation.

Guard Animals

One of the best preventative methods of livestock predation for sheep producers is introducing a guard animal. A livestock guardian animal stays with the flock without harming the sheep and aggressively repels predators. Dogs, donkeys, and llamas have all been used successfully to protect livestock. The choice depends on the:
livestock being protected

- local terrain
- acreage
- predator threats
- budget, and
- personal preference.

Whichever animal you choose, it will require training, extra feed, vet care, and housing expenses. Guard animals can be effective, but in some situations, packs of coyotes will defeat the most diligent guard animals. If you are following an aggressive rotational grazing program, with flocks in several paddocks at the same time, you may need a guard animal for each paddock. The major advantages of using guard animals include decreased predation, reduced labour to confine sheep at night and more efficient use of pastures for grazing.

Guard dogs are the most useful tool for reducing livestock losses to predators. A trustworthy, well-bonded dog is very effective. It is important to remember that they are a fulltime member of the flock. They are not a herding dog or a pet.

There are many breeds that are suitable, such as Maremma-Abbruzzi, Akbash, Kuvasz, Great Pyrenees, Kommondor, Anatolian Sheepard, Shar-plainetz and others. An advantage of using dogs is that multiple dogs do not reduce individual effectiveness. Guard dogs work well in both fenced pasture and range operations. In fact, they are the most effective weapon in large flock, range-type operations, or in heavily treed pastures where more than one guard animal is required.

In rare instances, dogs may harass or injure sheep, or wander off and not remain with the sheep. Guard dogs have higher feed costs than guard donkeys or llamas and require daily feeding. However, guard dogs will alert the owners to any disturbances near the flock. They will also protect the livestock and the farm property. **They are the best guard animal and best management tool to reduce predation from coyotes (especially for sheep producers) and are used extensively in Alberta.** However, if a guard dog is being used to protect livestock, we do not recommend the use of coyote control toxicants.

Guard donkeys have been used for centuries to protect sheep and other herding animals. Donkeys are extremely intelligent, with acute hearing and sight, and they are conservative by nature. They do not like change in their surroundings, and will drive off a coyote or stray dog an intruder. Donkeys also have an instinctive dislike of canines.

Donkeys are easy to care for - good pasture or hay and water is all they need - and are delightful barnyard pets, if you accept that they are clever and rigid. But not all donkeys are instinctive guards. Some will ignore an intruder, and there have been cases of donkeys that run away from intruders, or donkeys that attack the sheep and goats they are assumed to protect. There is wide variation in how individual donkeys interact with sheep. Be aware that the donkey's behaviour and mood may be unpredictable during estrus, or when the ewes are lambing.

Researchers recommend using only one jenny (female) or gelded jack (male) per pasture; intact jacks are too aggressive, and two or more donkeys might stay together instead of being with the sheep. They also recommend approximately allowing for a four to six week period for the donkey to bond with the sheep. The donkey's distinct dislike of canines may also include the farm or herding dog. It is suggested that donkeys are most effective in small, open pastures or where sheep are cohesive and graze together. Feeds containing anabolic agents, such as monensin (Rumensin) and lasalacid (Bovatec) are poisonous to donkeys.

Guard llamas are intelligent, instinctively dislike canines, and are capable of protecting a flock from some predator attacks. A tall, alert llama can be intimidating to a coyote. Because they are ruminants, llamas can eat the same diet as a flock of sheep or goats they are guarding. A guard llama should always be gelded. It is generally recommended that llamas not be gelded before one year of age because of problems in the growth of leg bones if the male hormones are not available.

Llamas are naturally aggressive toward coyotes and dogs. Typical responses of llamas towards coyotes and dogs are that of being alert, alarm calling, walking to or running toward the predator, chasing, kicking, or pawing the predator, herding the sheep, or positioning themselves between the sheep and predator. Although the snorting and stomping of a llama can be an effective deterrent against a prowling coyote, llamas can themselves be vulnerable to packs of coyotes, dogs, wolves, and cougars. Many llama breeders now refuse to sell llamas as livestock guards because their guarding manner - out of natural curiosity, a llama walks toward a marauding predator - can increase their vulnerability. Also be aware that the llamas may spit at you.

B) Fencing

Success in terms of fencing to keep coyotes out is variable and dependent on many different factors, including the predators past experience, the type and availability of livestock, the predator population, the season of the year and the design and quality of the fence.

Net fences, when in good repair, will deter many coyotes, as will several other combinations of barbwire and electric fences. Remember, however, that the coyote's motivation and past experience with the fence will affect his response to it. In other words, if he knows there is an easy meal on the other side, expect this canine to dig under, or jump over or through most conventional fences. Some of the most effective fences can be simple in design when combined with other aggressive deterrents, such as guard dogs and donkeys. When the potential for predation warrants the expense and labour involved with fencing, contact the Ag-Info Centre at 310-FARM, or the provincial sheep organization for more information on fencing design.

Electric fencing has proven to be an effective, non-lethal method of preventing predation to sheep producers. It also provides the opportunity to use temporary electric fences to facilitate pasture division for improved grazing management. Electric fences are relatively easy to maintain and are cheaper to build than conventional fences. However, the fences must be designed and built properly, be grounded properly and be powered by a sufficient energizer. They also require routine inspection and maintenance to reach full protection capabilities. Detailed instructions for the construction of these fences can be obtained from Alberta Agriculture fact sheets:

Agdex FS 684-7, Protecting Livestock from Predation with Electric Fences.
Revised 1997.
http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex888

Agdex 724-6, Fencing with Electricity.
http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex47

C) Lethal Control of Coyotes

Neck Snares

Neck snares, constructed of braided steel cable, have been used for many years by fur trappers to capture coyote, wolf, and fox. Neck snares are also effective to remove problem coyotes from farms where livestock predation has occurred. Snares are harmless to birds but will capture deer, other wildlife, and farm animals if not set properly. Avoid setting snares on game trails, as this will increase the chances of catching non-target animals.

Neck snares are available for coyote predation control under permit. These snares are individually numbered, marked for accountability, and must be used under standards provided by Animal Health and Assurance Branch.

Snares must be made with quality, proper size steel-braided cable, and a locking device. If inferior material is used to construct a snare, a coyote may break or chew off the snare and escape. Several strands of haywire should be used to securely anchor the snare to prevent escape.

Coyotes that enter a pasture by digging under or crawling through a fence can be taken with a snare encircling the entry hole (Figure 20). The snare should be set on the outside of the fence, which is the direction from which the coyote will approach. Secure the snare to the wire fence by the haywire on the end of the snare. Watch small snare loops within the hole, as they are more easily detected by coyotes.

Figure 20. Coyotes that enter a pasture by digging under or crawling through a fence can be taken with a snare encircling the entry hole.

On a dig hole under a fence, the loop should be made as large as the outside of the hole. Place the bottom of the snare five centimetres above ground level. As the coyote pushes through the hole under the fence, its feet will pass the snare and its head will pass into the snare loop. The outline of a snare can be concealed by lightly wrapping dry grass around the loop.

As with all control techniques do not leave unnecessary signs or odours at the site. Cigarette butts, footprints, spit, and urine may frighten coyotes or make them wary. Wear clean gloves when snares are handled and set. Do not wear shoes that are fouled with grease, oil, or other material. To minimize suffering, always check set snares daily, preferably each morning to monitor snaring success and to dispatch captured coyotes.

Poisons

Poisons used for coyote control are strictly regulated and registered as restricted pesticides under the Pest Control Products Act of Canada. Precautions and procedures of poison use are contained on a pesticide label provided to users of coyote poison.

People who use poison under the coyote control program of AF must be trained and able to demonstrate responsible use of the poison and agree to use the poison in strict accordance with the regulations of the Province of Alberta Agricultural Pests Act and the Pest Control Products Act of Canada.

Farmers using poisons must:

- Receive a PCP label which outlines the instructions and restrictions for using the poison, a
- "Form 8 Permit", and sufficient warning signs from an authorized inspector for posting on the land where poison is set. Read all of the materials carefully and thoroughly before using poison.
- Memorize the first aid instructions on the PCP label. It may be too late to refer to them after an accident has happened.
- Store coyote control poisons in a locked container. Keep the poison in the childproof vial provided by the inspector at all times and out of reach of children, pets, and livestock.
- Ensure that all poison containers have appropriate poison stickers and labels. A skull-and-cross-bones label is mandatory on all poison containers.

The use of poison to kill wildlife is very controversial and under close scrutiny by the Federal Government. The use of poisons for coyote control is a privilege, not a right. The continued availability of poisons highly depends upon the safe and responsible use of these products. Improper or unnecessary use of poisons will jeopardize the future availability and use of these valuable tools for livestock predation management.

Sodium Cyanide

Sodium cyanide is a colourless solid that reacts with carbon dioxide or acids to form hydrogen cyanide gas, which is extremely toxic. Hydrogen cyanide is produced when an animal ingests sodium cyanide and prevents cells of the body from using oxygen. Unconsciousness occurs quickly, followed by convulsions and death within five minutes.

Sodium cyanide for coyote control is used in an M-44 device. The M-44 is a mechanical device designed to eject sodium cyanide powder into the mouth and throat of a coyote. The M-44 device is positioned in the ground and fitted with a baited cyanide cartridge. When a coyote bites and pulls on the cyanide cartridge, an ejector on the M-44 device propels cyanide powder into the coyote's mouth and throat. The cyanide powder is converted to cyanide gas in the coyote's throat and stomach and kills the coyote quickly.

The use of the M-44 device is authorized by the Alberta Agricultural Pests Act. The sodium cyanide used in the M-44 is registered under the federal Pest Control Products Act. M-44 devices must be used in accordance with the PCP label for sodium cyanide.

M-44 Components and How They Work

The parts of an M-44 device (Figure 21) are as follows:

Stake (A) — a pipe-like part with a flattened bottom end. It is driven flush into the ground with a driving pin and holds the ejector mechanism. A spring clip mechanism on the top of the stake fits over the trigger of the ejector mechanism.

Ejector Mechanism (B) — a spring-activated pin in this component forces cyanide powder from the cyanide cartridge when the mechanism is fired. The ejector mechanism is fitted into the stake, with the trigger of the ejector placed under the spring clip of the stake. The top part of the ejector is threaded to attach the loaded cyanide cartridge.

Setting Tool — pliers used to depress the pin of the ejector mechanism. With the pin depressed, the trigger of the ejector mechanism is locked in the firing position.

Cyanide Cartridge (C) — a small plastic cylindrical case that holds the cyanide powder.

Cartridge Holder (D) — a metal part threaded on the bottom and covered with fabric or wax. The cyanide cartridge is inserted into the cartridge holder. The loaded cartridge is tightened onto the cocked ejector mechanism.

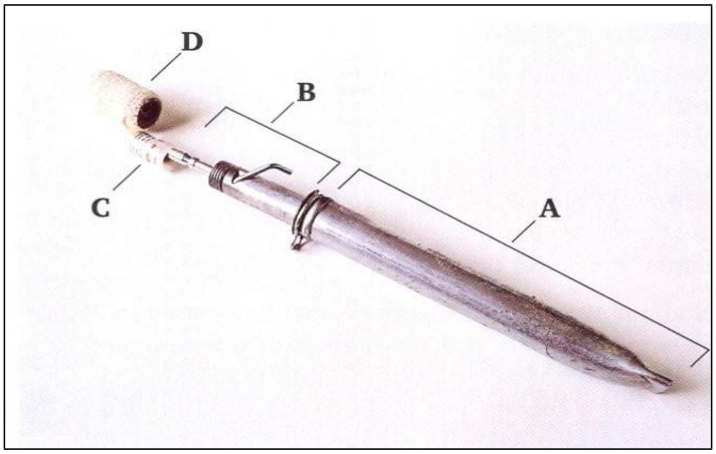

Figure 21. The parts of an M-44 device.

M-44 Setting Procedures and Precautions

1. Avoid accidents! Always wear safety glasses, a heavy-duty dust mask and gloves to protect yourself in case the M-44 device is accidentally discharged.
2. Always wear gloves kept only for coyote control. Gloves reduce the amount of human odour left on an M-44 device, and protect your hands from cyanide contact. Leave as little foreign odour and disturbance as possible at the site where an M-44 device is placed.
3. At a selected site, clear a 30 centimetre diameter spot of any long grass and other debris. Also scratch up the site with your hammer. This tends to attract the coyote along with the food lure used.
4. Remove the ejector mechanism from the stake. Drive the stake into the soil until it is flush with ground level. Use a long driving pin to prevent damage to the top of the stake and spring clip.
5. Depress the pin of the ejector mechanism with the setting pliers, and lock the pin in the set position by lifting the trigger located on the side of the ejector mechanism. The pin is locked down to fire when the ejector trigger is in a horizontal position.
6. Place the locked ejector mechanism into the stake ensuring that the ejector trigger is under the spring clip of the stake.
7. From an upwind position, always use an out-stretched arm to carefully screw the loaded cartridge holder onto the ejector mechanism. A light, downward pressure must be used when a loaded cartridge holder is attached or removed from the ejector mechanism. An upward pull will cause the M-44 device to fire. Always keep your face away from the M-44 when a loaded cartridge holder is attached. Never work directly over a loaded M-44 device.
8. Apply a food lure to the set device. The inspector normally supplies lure prepared by AF, although homemade and commercial lures can also be used effectively. Apply the lure with downward strokes to prevent accidental firing of the device.

9. Always remember the following precautions when you attach or remove a loaded cartridge holder: stay upwind, wear gloves, safety glasses and a heavy-duty dust mask, use an out stretched arm, exert a downward pressure, and keep your face away from the M-44 device.
10. Check M-44s at least every 72 hours. Remove and replace fired cartridges and re-apply lure as needed. The top of the loaded cartridge holder will be frayed and open if it has been fired; a stick or grass stem can be inserted inside the cartridge holder. However, you should always assume that an M-44 device is dangerous. Carefully unscrew the loaded cartridge holder from the ejector mechanism. Inspect the cartridge to determine if it has been fired.
11. All M-44s must be removed as soon as coyote predation has stopped, and no later than 30 days after placement.

Placement of M-44 Devices

Proper placement of an M-44 greatly influences its success. Study the situation carefully before setting one. Try to locate the travel routes and direction from which coyotes are approaching a predation site. An M-44 device must be placed where a coyote will easily find it. One well-placed set is often better than several poorly located ones. A hilltop or knoll makes a good site, as do locations along livestock trails, fence lines or on the edge of a bush or field. M-44 devices should not be set in low areas prone to flooding or standing water from rains.

Place M-44 devices off to one side of a sheep or game trail to prevent animals from stepping on it. **Do not** set M-44s where livestock other than sheep or goats have access to them. Some livestock including cattle and horses may lick, bite and chew at the applied food lure and cause the device to fire and potential death. Pets, especially dogs, are also at risk, and must not have access to pastures where M-44 devices are placed. **Do not** use an M-44 where herd or guard dogs are present unless the dogs are first removed or confined away from the area.

A kill site is a good location to use sodium cyanide. Remove the livestock carcass and replace it with an M-44 device. A coyote will usually find the device and pull it.

A written record must be kept of the location where the M-44 is set. Make the description as detailed as possible so that anyone can find the device. You may have trouble finding the M-44 without a distinctive landmark. For example, place a rock, a large piece of wood or a tree branch five paces north or south of the set device. Locate the rock or piece of wood and then it should be easy to find the M-44.

Sodium Monofluoroacetate (Compound 1080)

In Alberta, Compound 1080 has replaced strychnine for coyote removal because it is a more selective poison. The small amount required to kill a coyote is less likely to harm a person or animals such as bears and wolves. In addition, the chance of secondary poisoning is low for animals that feed on coyotes killed with 1080. The major hazard of 1080 use is to domestic dogs that consume baits set for coyotes. Dogs should be confined when 1080 baits are used; adjacent neighbours must also be notified of poison use.

What is Compound 1080 and How Does it Work?

Compound 1080 is a white, practically tasteless, crystalline material with a slight acetate odour, and acid-salty taste. Compound 1080 is only absorbed when swallowed, and not through normal, unbroken skin. Compound 1080 is a slow acting poison. Symptoms of poisoning appear within 15 to 45 minutes and death usually occurs within 24 hours. Compound 1080 forms highly toxic fluorocitrate in the cells of the body. Fluorocitrate blocks energy production causing the loss of cell function and cell death. Eventually the organs or the organ function fails, with death from cardiac and/or nervous system failure.

Compound 1080 poisoning symptoms include initial effects on the nervous system followed later by effects on the heart. A dog poisoned with Compound 1080 becomes hyperactive, frequently howls, and has running fits and actions suggestive of hallucinations or hysteria. Death from heart failure usually follows continual body contractions combined with running movements while laying stretched out.

There is no practical antidote for compound 1080 poisoning; only the symptoms are treated. Once cardiac effects are observed, death is assured. As with all poisons, Compound 1080 is an extremely toxic chemical and is dangerous to people, wildlife, and domestic animals if used improperly.

Use of Compound 1080

Compound 1080 is mainly used for coyote control in a tablet form. Each tablet contains enough 1080 to kill one coyote; that is, it contains a single lethal dose of poison.

Compound 1080 tablets can be used in two ways:

1. A single tablet can be placed in a bite-sized piece of meat weighing less than 100 grams (e.g. chicken head). **This is the preferred method** and will be called an "SLD bait" (single lethal dose bait).

   Each of these individual baits will kill only one coyote. When several SLD baits are set at a predation site, they should be set far enough apart to discourage coyotes, or any other animal, from eating all the baits. If correct bait placement procedures are followed, there is less chance of poisoning other species with SLD baits than with a large carcass bait.

   SLD baits are often placed along coyote trails leading to a predation site. A coyote-killed livestock carcass can be a "draw bait" to attract coyotes to the predation site. As coyotes approach the draw bait, the SLD baits are found and consumed. However, animals scavenging the untreated draw bait are not harmed.

2. Up to a maximum of six tablets can be placed in a coyote-killed livestock carcass. A coyote that returns and feeds on the carcass is also likely to be involved in killing the animal. Poison should only be placed in a carcass when the carcass is fresh. In warm weather, this is generally less than one day after death. Otherwise, the carcass should be used as a draw for SLD baits or the carcass should be removed and disposed of. Placing poison in a carcass will increase the chances of non-coyote poisoning. Also, disposal of unconsumed portions of a poisoned carcass is more difficult than disposing of SLD baits.

SLD (Single Lethal Dose) Baits

What makes the best SLD bait? One 1080 tablet placed in a small, bite-sized (less than 100 grams) piece of meat makes an SLD bait (Figure 22). A chicken head make an excellent bait at all times of the year and should be used in preference to other bait materials. The beak should be opened and the tablet placed in the throat. Chicken heads are preferred because they are not readily consumed by ants, carrion beetles, or mice. The skull makes effective bait even after the head is dried out or stripped of flesh by insects.

Figure 22. One 1080 tablet placed in a small, bite-sized (less than 100 grams) piece of meat makes an SLD bait.

Soft meats (hamburger, liver, flesh) do not make good SLD baits during the warm seasons because they quickly rot and are eaten by mice or insects.

Raw eggs can be used during warmer months. Make a small hole in the end of the egg with a knife and insert one tablet. Seal the opening with lard, fat, or tape.

Be sure to place a lure or odour attractant on the egg because an egg does not have much scent. Chicken eggs make good bait because, normally, they cannot be broken by animals smaller than a skunk.

Coyote lure is usually placed on or close to SLD baits. SLD baits must be covered with a layer of either sod, soil, snow or, dry chicken, or cattle manure. Coyote lure can be placed on the cover material or on vegetation within close proximity of the bait.

Lures are usually made from strong-smelling ingredients that attract coyotes to the site. Common components of lure include coyote urine, rotten meat, fish oil, beaver castor, skunk or mink musk, and anise oil. AF provides a lure made primarily from beef brains and salmon oil. Many commercial lures are also available.

One to three SLD baits should be placed at a time, but not close together, at a predation site. Spacing the baits out on different coyote trails in association with a livestock kill site will improve poisoning efforts. Replace consumed baits until predation stops. SLD baits make for more effective coyote control. They reduce non-target animal hazards. They are also easier to pick up and destroy after control has been completed than is a poisoned carcass.

Occasionally, a poison cannot be used directly at a livestock kill site because it may be too close to a road or a residence. However, the livestock carcass may be used as a draw bait by moving it to a location where poison can be used. Place the draw bait carcass near the approach trails used by coyotes and in an open area 50 to 75 metres from a creek or bush cover. Baits placed immediately adjacent to a creek or bush are frequently taken by non-target species so avoid these areas.

If the carcass of a coyote kill is not available, baits can be set along coyote trails leading to the kill site or area where livestock are being held.

Set bait to minimize non-target animal consumption and poisoning.
If a non-target animal consumes bait, the animal may needlessly be killed. Coyotes will readily find and consume a SLD bait that is covered with 5 to 10 centimetres of soil, snow or sod. Covering a SLD bait only with grass or other light vegetation is not recommended as wind may blow it away leaving the bait visible to non-target animals.

Birds almost never pick up bait if it cannot be seen from above. Carrion beetles, ants and other insects consume SLD baits very quickly in warm weather. Carrion beetles are attracted by ammonia given off by rotting flesh. Consumption of SLD bait by insects can be reduced or prevented by applying a layer of dry chicken manure over the bait. Cattle will frequently investigate a dead carcass. They may also be attracted to the odour of coyote lure, particularly if it contains fish oil. SLD bait should not be placed closer than 15 metres to a carcass used as a draw bait if cattle are present to reduce the chances of the SLD bait being trampled. Also, coyote lure should not be used, or applied only sparingly, to the covered SLD bait.

A dig-hole set works very well for applying SLD baits. It mimics the burrow of a rodent (Figure 23). The hole should be about 5 to 10 centimetres in diameter and about 15 to 20 centimetres deep at an angle into the soil. A dig-hole set can be used with or without a draw bait. Place bait in the hole and cover with about five centimetres of soil. Coyote lure may be placed on the bait or at the tip of the hole. Rodent burrows are often investigated by coyotes. Therefore, the hole set offers a visual attractant for coyotes as well as protects the bait if cattle are present. Cattle may still trample the site without destroying the bait. In winter, snow can be mounded and SLD bait buried about 7.5 centimetres into the top of the mound. Coyote lure can be applied to the bait and on top of the mound for extra attraction. Snow mounds make checking and locating baits easier, even after a heavy snowfall. A coyote attracted to the snow mound will dig out and consume the concealed bait. This is usually obvious upon bait inspection and baits can therefore be accounted for.

Figure 23. A dig-hole set works very well for applying SLD baits. It mimics the burrow of a rodent.

DO NOT place 1080 in a carcass used as a draw bait when SLD baits are used. Poisoned draw bait will increase the poisoning hazard to scavengers, particularly birds, and is more difficult to dispose of if not totally consumed by coyotes.

Carcass Bait

When it is necessary to poison a carcass, the poison should only be placed in areas protected by intact hide or on the underside of the carcass to minimize hazards to birds.

Toxic Neck Collar

The toxic neck collar can be used administer toxicants to coyotes that attack sheep or goats. This technique exploits the coyote's habit of killing these animals with a bite to the throat area. A coyote will actually suffocate a sheep or goat with numerous bites to the throat that eventually collapses the windpipe.

Like all other coyote control techniques, the toxic collar is more useful in some situations than in others. It is the most selective and safe way to use poisons for coyote control. These techniques are useful where other lethal controls are inappropriate or poison bait or cyanide guns are ineffective. The toxic collar can be a valuable tool for coyote control.

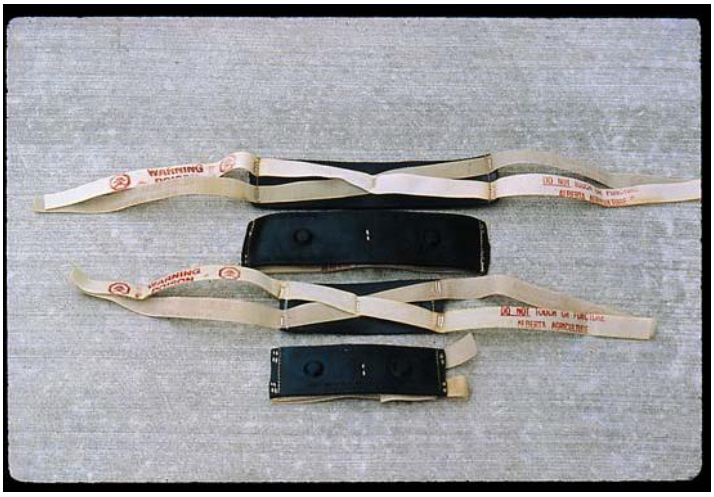

Figure 24. Toxic neck collar – the rubber bladders containing 1080 solution are firmly attached to two velcro straps.

Collars are made in two sizes for big and small-sized sheep or goats. Each toxic collar has two rubber bladders that contain a solution of water and Compound 1080. The bladders are firmly attached to two velcro straps (Figure 24). A collar is fitted on a sheep or goat so that one bladder is on each side of the throat just under the jaw (Figure 25). The velcro straps are fastened on top of the head. One strap fastens behind the ears and the other in front to hold the collar in place. These straps should be stapled together in two different places to further secure the collars on the animal. The straps should not be too tight or they may cause sores beneath the collar.

A coyote that attacks a collared animal will usually bite and puncture the collar and receive a lethal oral dose of poison. The poison is only delivered to those coyotes that attack a sheep or goat. Thus, the toxic collar is harmless to coyotes not involved in livestock predation and to other non-target species.

Figure 25. A collar is fitted on a sheep or goat so one bladder is on each side of the throat just under the jaw. A coyote attacking the throat area punctures a bladder and ingests the poison.

A coyote will receive a lethal dose of poison during approximately 75 per cent of the attacks on a collared animal. With sheep, ideally all lambs should be collared. However, herd management is usually required for a large flock, so all lambs need not be collared. Ewes need not be collared if lambs are present because coyotes prefer to attack lambs. When a flock is large, 20 to 50 lambs and their mothers are separated from the main flock, and the lambs are collared. The target flock is left in the field where the most recent predation occurred while the main flock is moved to a different field and corralled at night.

Points to consider when establishing a target livestock group:

- For sheep, the toxic collar works best on a healthy, thrifty lamb over 14 kilograms. When attacked, a big, healthy lamb struggles more and increases the chance of a collar being punctured by the coyote.
- Collars are most efficiently used after a pattern of normal coyote predation has developed. A predation pattern can only be determined after about three coyote attacks have occurred in two weeks. It can then be determined where the collared lambs should be placed and for how long. However, collars can be used before three attacks have occurred.
- Toxic collars are most effective in the spring and early summer when predation is more regular.
- Collared animals should be checked daily and the collars adjusted as required. A search should be made immediately for missing animals and collars. Attention to detail will increase chances of control success.
- Changes in the size or distribution of a flock may deter coyote predation for a week or two. Patience is required. Collars should be removed if predation has not occurred within 30 days.
- Accurate records of toxic collar use must be maintained.

Use of toxic collars is more involved and has more disadvantages than other lethal control measures. Therefore, they are generally used only where other lethal control measures have failed or are inappropriate for the situation. Disadvantages of the toxic collar include:

- Collared animals that are attacked are usually killed by the coyote because 1080 does not kill immediately. The first symptoms of 1080 poisoning do not usually occur until several hours after the poison is ingested.
- Increased labour is required to capture, collar, monitor and manage the target flock to direct a coyote to a collared animal.
- The main flock must be separated from the target flock and moved to another pasture and/or be confined at night.
- A pattern of predation should be determined before collars are used. They work best where coyotes kill regularly (every one to three days). If a coyote only kills occasionally, the labour and time required to resolve a predation problem can greatly increase.
- Collars are ineffective if coyotes do not attack the throat.
- Guardian dogs should be removed from collared sheep to prevent potential poisoning. Guard dogs closely bonded to sheep often groom them by licking their face and ears. A leaking collar could provide a lethal dose of poison to the dog during grooming.

The effects of toxic collars on non-target animals and the environment have been evaluated in the United States and found to be minimal or negligible. Only a predator that attacks a collared animal and punctures a collar is at risk of death. Death of an animal feeding on a coyote killed by a toxic collar has not been demonstrated. There is a potential for non-target poisoning of scavengers if they eat the neck of a dead collared animal on which 1080 solution from the collar has collected. However, most feeding takes place on the body of a dead animal rather than on the neck. There is also a potential hazard to guardian and other farm dogs who may groom collared sheep or lick at collar solution on the throat or the damaged collar of a dead collared sheep. Prompt disposal of a dead collared animal and punctured collar minimizes non-target hazards.

A collar can occasionally be lost, especially during a predator attack. A missing collar may pose a potential threat to people. However, it is unlikely that anyone would knowingly ingest the liquid from a collar. Regardless, every effort must be made to find lost collars.

BOOKLETS:

Agdex 684-14, Methods of Investigating Predation of Domestic Livestock “Red Book”
Cost: $8.00. Order On-Line at: www.rtw.ca/b680

Agdex 684-19, Coyote Predation of Livestock. Cost: $8:00.
Order On-Line at www.rtw.cab681

Alberta Agriculture and Forestry (AF)

COYOTE PREDATION MANAGEMENT PROGRAM (CPMP)

OPERATIONS POLICY AND PROCEDURE

Introduction

The purpose of the Coyote Predation Management Program (CPMP) is to inform and assist landholders in managing coyote predation of their livestock. Alberta Agriculture and Forestry (AF) administers the CPMP throughout the agricultural regions of the province.

AF and participating rural municipalities (Agricultural Service Boards) administers the CPMP through a joint co-operative arrangement; AF supervises the program provincially and municipalities deliver the program within their jurisdiction in accordance with this document and municipal policy.

Included in the written municipal policy on coyote predation management will be the list of coyote control materials and devices approved by council (or Agricultural Service Boards [ASB]) for use within their jurisdiction for the purposes of the program.

Municipal personnel are trained and authorized by AF as inspectors under the Alberta *Agricultural Pests Act* (APA) to carry out the CPMP.

Authorized municipal inspectors respond to landholder complaints of coyote predation and provide advice and, where needed, direct assistance to landholders in managing coyote predation on their property.

General Background

Conflict between coyotes and farmers began with the arrival of European settlers and livestock domestication in the Canadian west. Despite early attempts of elimination, the coyote has expanded its range and increased its numbers significantly throughout the province.

The coyote is an important and valuable wildlife species and an ally of agriculture, eating many species of rodents and insects harmful to agriculture. The coyote is also a valuable furbearer bringing thousands of dollars annually to the fur industry.

Unfortunately, the coyote occasionally causes problems by preying on domestic poultry and livestock. Today, predation by coyotes is recognized by the livestock industry and the Department as a potential, but manageable risk to livestock production. Recognizing the risk of predation, livestock producers should follow acceptable and appropriate management practices, and procedures aimed at reducing or preventing coyote damage.

AF advocates the use of pro-active measures to prevent or reduce coyote predation. This includes close supervision of stock, proper carrion disposal, use of guardian animals, predator- proof barrier of electric fences, scare devices, shooting and other lawful means of protecting livestock from coyote predation. AF also supports selective removal of coyotes with appropriate use of specific predator pesticides (called predacides) and neck snares.

The Pest Management Regulatory Agency (PMRA) of Health Canada has approved the use of several restricted pesticides in Alberta for the protection of livestock where coyote predation has been confirmed by an authorized municipal inspector on: cattle, sheep, goat, hogs, poultry, bison, farmed elk, deer and other recognized livestock (i.e. llamas).

Agricultural Pests Act (Alberta)

Management of coyote predation on livestock is regulated, in part, by the *Agricultural Pests Act* (APA) and the *Pest and Nuisance Control Regulations* (406/86). The regulation declares the coyote to be 'nuisance' which allows authorized municipal inspectors to set out or issue coyote control devices and materials to landholders at the discretion of municipal policy and in accordance with provincial and federal legislation. Authority is also granted under the regulations to permit landholders to use coyote control materials issued to them by an authorized inspector to control coyotes.

In addition, the Pest and Nuisance Control Regulations of the APA allows landholders and others authorized by him, to destroy coyotes on land which the landholder owns or controls by:

- Shooting coyotes
- Destroying coyote dens
- Use of authorized poisons under the requirement of the APA and *Pest Control Products Act Canada* (PCP Act) (mentioned above)
- Use of AF approved neck snares is in compliance with the APA.

AF does not use or supply leg hold traps for coyote predation management. Landholders who wish to trap coyotes or authorizes someone else to trap coyotes on their property should inquire at the local Fish & Wildlife office for further information.

Inspectors

Upon appointment by municipal council to carry out the CPMP, the appointee will be required to complete a training course from AF on the program. Included in the initial training will be an overview of coyote predation prevention and avoidance, non-lethal and lethal control strategies, procedures of storage, transportation and use of coyote control devices, hands-on instruction and the roles and responsibilities of those involved in the program. Training may be in the form of a home study manual or via the internet. At the conclusion of the training and having successfully completed a written and practical exam on the use of toxicants, the appointee will receive his/her provincial "Form 7 Permit" authorization from AF. The "Form 7 Permit" is valid for five years.

All authorized municipal inspectors ("Form 7 Permit" holders) are required to participate at the next provincial problem wildlife training seminar and attend at least one every five years thereafter. The exam is provided quarterly at Lethbridge, Olds, Edmonton, and Fairview, or as need requires.

One or more municipalities may share an authorized inspector(s) who must be appointed and identified in the ASB or council meeting minutes as the designated person to conduct the CPMP in that municipality.

A municipal inspector certified by AF is authorized under "Form 7 Permit" to use, within his municipal jurisdiction, the coyote control material specified on his/her "Form 7 Permit" Permit. The inspector may issue these materials to a landholder within his/her municipality after the inspector has trained the landholder in coyote predation management and the specific use of the control device(s).

Landholders must be in possession of a valid Form 8 Permit, issued by the "Form 7 Permit" Permit holder to receive and set out AF approved poisons and snares or authorize the municipal inspector to set out these devices on property he/she owns or has under his/her control identified on the permit.

Under the *Agricultural Pests Act* and the *Pest and Nuisance Regulations*, the municipal inspector is authorized to issue Form 9 Permits to landholders to use dogs for coyote control. The Form 9 Permit may be issued to the landholder where confirmed coyote predation has occurred within 30 days of application. A landholder who is in possession of a valid Form 9 may authorize a person who is a resident of Alberta to use dogs on property that he/she owns or controls identified on the Form 9 Permit. The Form 9 Permit is valid for a period of 30 days.

Inspectors are to promptly submit an annual written report, which is due January 30th of the following year to AF on the use of all toxicants and control devices (see Appendix I, "Annual Control Device Use Report Form").

Pest Control Products Act (Canada)

All predacides used for coyote control in Canada are registered by the Pest Management Regulatory Agency (PMRA) of Health Canada and classed as "restricted products".

Restricted products may only be used by provincially authorized personnel for specific uses and, as such, are closely monitored and supervised for accountability and compliance with appropriate legislation. Each coyote control product has a 'product use' label provided by AF for the coyote predation management program including:

- Compound 1080 tablets
- Livestock Protection Collars
- M-44 Devices

AF poisons and devices are registered for the control of coyotes causing confirmed predation of designated livestock. They are not to be used to control coyote predation of unconfined poultry, pets or hobby animals or for any other reason not directly associated with livestock predation.

Municipal inspectors must store and transport these materials and devices in a locked, properly labelled plastic or metal container (i.e. lockable tool box).

Landholders should not be issued, at one time, more than:

- **3 M-44 cyanide ejectors**
- **6 M-44 cyanide cartridges**
- **6 Tablets of compound 1080**
- **Livestock protection collars will be determined by an inspector.**

Only AF approved and identified devices and materials will be issued or set out. M-44 stakes are sequentially stamp numbered as belonging to AF. Compound 1080 tablets and the livestock protection collar contain a tracer dye that identifies them as belonging to AF. Neck snares can be used and are commercially available, but must be properly identified by a unique number as identified on the Form 8.

Requests for repeat issuances of devices must be closely examined to ensure restricted product use is justified, including steps taken by the landholder to manage the coyote problem.

Only AF personnel will load livestock protection collars. All restricted products and devices listed above are the property of Alberta Agriculture and Forestry.

Predation Reporting and Response Action

1. All complaints of livestock harassment or predation by coyotes should be reported immediately to the local municipality office where the problem occurred. Predation by other wildlife such as eagles, bears, wolves, etc., is to be directed to Fish & Wildlife. Complaints of livestock damage or predation by domestic or feral dogs should be directed to the local RCMP detachment office. Feral pigs (wild boar) should be reported to your local Agricultural Service Board.

2. All complaints of coyote predation must be investigated by an authorized municipal inspector for verification and for recommended course of action. This will involve a physical examination of the predation site by the inspector to assess the situation and to talk to the landholder. The landholder should take steps to preserve the carcass and any other evidence as best as possible (i.e. covering with a tarp, etc.) until the investigator arrives.

3. Coyotes can kill healthy, sick and injured livestock and commonly scavenge dead animals. Occasionally, observations of coyote(s) at a carcass that may have died of other causes may be incorrectly identified as predation. That is why it is important that all coyote predation complaints be completely and thoroughly investigated by the municipal inspector.

4. In the event of confirmed coyote predation, the landholder should take immediate remedial action to protect his livestock from further damage. For information on appropriate action to prevent and control predation, refer to AF publication "Coyote Predation of Livestock" (Agdex 684-19). Cost: $8:00. Order On-Line at www.rtw.cab681

   Landholders are expected to provide adequate protection for their livestock.

5. The role of the inspector is to gather and consider all evidence on the property to confirm coyote predation and what course of action is required. The attack site should be closely inspected for evidence such as carcass remains, blood, hair, tracks, and signs of struggle to assist in the confirmation of coyote predation. Eye witness accounts, visible injury to livestock and other indirect evidence are often present at the attack scene and should be gathered for confirmation of predator damage. Municipal inspectors are trained in identifying coyote predation on livestock.

6. A useful publication on identifying types of predation is entitled:

   "Methods of Investigating Predation of Livestock", Agdex 684-14. Cost: $8.00.
   Order On-Line at: www.rtw.ca/b680

   AF publications are available by calling 780-427-0391 or email:
   publications.office@gov.ab.ca

7. Only after all physical and other evidence is considered can the municipal inspector confirm coyote predation has occurred or not and what course of action is required including the use of toxicants or snares.

8. Toxicant use may be warranted where coyote predation is confirmed and toxicants deemed integral to an overall plan that includes other strategies of livestock protection. Using toxicants alone without a long-term plan will only result in increased reliance and use of toxicants without an appreciable reduction in predation losses.

9. Where the municipal inspector decides to set out or issue restricted products, all parts of the PCP Act label for the poison used must be reviewed with the landholder (and a copy given to the landholder). The inspector must emphasize to the landholder the potential hazards associated with poison use including the accidental poisoning of non-targets such as livestock or pets; dogs should be tied or confined during poison use. Toxicants should not be used where a landholder is unwilling to take measures to prevent poisoning of non-target animals.

10. The landholder is responsible for informing close neighbours when restricted devices are used and must set out department provided warning posters when poison or snares are set.

11. Where snares are set out the municipal inspector must provide a copy of the neck snare information sheet to the Form 8 Permit holder on the use and management of the device. All snares must be marked with a unique identifying number which is recorded on the Form 8.

12. Unused tablets, cyanide capsules, or other devices must be returned to the issuing municipal authority by the expiry date of the Form 8 Permit. The municipal inspector is to collect pertinent information from the landholder for the municipal report to AF.

For assistance in resolving difficult or complex coyote predation cases, the municipal inspector should contact AF inspection staff. AF staff will provide resolution consultation as it relates to interpretation of policy, provincial legislation or federal labels and predation management methodology.

Alberta Agriculture and Forestry

Annual Coyote Control Device Use

Inspector's Name	

County	MD	ID	Special Area	

Report for the year: _____

Control Material	1080 Tablets	M44 Devices	M44 Cartridges	Neck Snares	Other (please specify)
Carried over from last year					
Received from department this year (+)					
Used by inspector (-)					
Issued to landholders (-)					
Returned by landholders (+)					
Removed for other reasons (please specify) (-)					
Total left (=)					

Comments:_____

_____

_____

_____

_____

_____

_____

_____ _____

Inspector's Signature Date

Send the top copy of this report (and include the copies of all "Form 8 Permit" that have expired or have been completed this year) to:

Animal Health and Assurance Branch
Inspection and Investigation Section
Provincial Building
3rd Floor, 4920 – 51 Street
Red Deer, AB T4N 6K8

AGRICULTURAL PESTS ACT

Click on Link Below

http://www.qp.alberta.ca/1266.cfm?page=a08.cfm&leg_type=Acts&isbncln=9780779782642

PEST AND NUISANCE CONTROL REGULATION

Click on Link Below

http://www.qp.alberta.ca/1266.cfm?page=2001_184.cfm&leg_type=Regs&isbncln=9780779792481

Snare Label

1. Snares may not be used without proper authorization from Animal Health and Assurance Branch. You must comply with all provisions of the Agricultural Pests Act, 2000, and regulations.

2. Only snares that are marked so as to identify the user shall be used.

3. Do not set snares closer than 0.8 km (0.5 mi) from any city, town or village and not closer than 0.4 km (0.25 mi) from any inhabited dwelling, excluding that of the producer for who is setting the snares for predation control.

4. Do not set snares within sight of a travelled road.

5. Maintain a record of all snare locations.

6. All snares must be inspected daily.

7. All snares are to be removed after 30 days.

8. A Form 8 permit with landowner's signature is required before snares can be set out.

9. Warning signs must be posted at all legal access points to property were snares are set.

2012-02-14
2011-4699

DANGER POISON

SODIUM MONOFLUOROACETATE

RESTRICTED
TOXIC COLLAR SOLUTION
PREDACIDE COYOTE CONTROL
READ THE LABEL BEFORE USING
GUARANTEE: Sodium monofluoroacetate 10 mg per ml solution
REGISTRATION NO. 24512 PEST CONTROL PRODUCTS ACT
NET CONTENTS: 60 ml collar device

ALBERTA GOVERNMENT/ ALBERTA AGRIGULTURE &
RURAL DEVELOPMENT REGULATORY SERVICES DIVISION
304 - JG O'Donoguhe Building
7000 – 113 Street
Edmonton, Alberta
T6H 5T6

NOTICE TO USER:
This pest control product is to be used only in accordance with the directions on the label. It is an offence under the Pest Control Products Act to use a control product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

NATURE OF RESTRICTION:
This product is for storage, use and handling only by persons authorized under the Alberta Agricultural Pests Act.

RESTRICTED USES:
COYOTE
Toxic Collar
Place toxic collars containing up to 60 ml of solution on sheep or goats where predation has occurred. Each toxic collar shall be monitored by the applicator or landholder at least every 48 hours.

Use Limitations

1. For use where there is active predation of sheep or goats.
2. Toxic collars must not be set nearer than 800 metres from the boundary of a hamlet, village, town or city, nor closer than 400 metres from a residence except that of the landholder who has approved the use of the collars.

3. The user must immediately post warning signs at all normal access points to land where toxic collars are in use and remove the signs when the collars are no longer used.
4. A copy of this label must be provided by the user to the landholder where toxic collars are set.
5. The user or the livestock owner must monitor toxic collars at least every 48 hours to keep accurate records on the use of each toxic collar.

PRECAUTIONS:

KEEP OUT OF REACH OF CHILDREN AND UNAUTHORIZED PERSONNEL. Sodium monofluoroacetate is toxic to all warm-blooded animals. Store toxic collars under lock and key in a dry place away from food, feed, domestic animals, and corrosive chemicals. Do not use in any manner that could contaminate food or feed. Wear gloves when handling. Wash hands thoroughly before eating or smoking. Remove guardian dogs from sheep or goats while toxic collars are set.

DISPOSAL:

Burn damaged or unusable toxic collars at high temperature, or bury to a depth of 60 cm. For information on the disposal of unused, unwanted product contact the provincial regulatory agency or the manufacturer. Contact the manufacture and the provincial regulatory agency in case of a spill, and for clean-up of spills.

FIRST AID INSTRUCTIONS:

Speed is essential. Immediately cause vomiting by inserting a finger down the throat. Repeat until vomit fluid is clear. Then give 30 ml of Epsom salts in water. Have victim lie down and keep warm and quiet. Call a doctor or the Poison Control Centre (1-800-332-1414) immediately. Take container, label or product name and Pest Control Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION:

Sodium monofluoroacetate (1080) poisoning results from fluoroacetate changing into fluorocitrate within cell mitochondria. Poisoning is characterized by a symptom-free period of 0.5 to 2 hours or longer between ingestion and onset of symptoms (nausea, vomiting, diarrhea, and hyperactive behaviour leading to convulsions). In monkeys, and presumably in man, effects on the heart are the primary cause of death. The first symptoms of poisoning are changes of heart sounds and premature, weak contractions. No effective antidote is known, but treating the symptoms is effective in approximately 50% of human cases. Immediately cause a victim to vomit all stomach contents and give Epsom salts (magnesium sulphate). Compounds capable of supplying acetate ions give antidotal effects in animals including monkeys; the choice drugs are acetate and ethanol (2 g/kg of each). A single dose of magnesium sulphate (800 mg/kg) injected into muscle as a 5- per cent solution has saved the life of rats dosed with lethal amounts of sodium monofluoroacetate. Complete quiet and rest are required. Symptoms of non-lethal sodium monofluoroacetate poisoning will usually subside within 12-24 hours.

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This label transcript service is offered by the Pest Management Regulatory Agency to provide efficient searching for label information. This service and this information do not replace the official hard-copy label. The PMRA does not provide any guarantee or assurance that the information obtained through this service is accurate, current or correct, and is therefore not liable for any loss resulting, directly or indirectly, from reliance upon this service.

2015-2623
2015-07-03

SODIUM MONOFLUOROACETATE

PREDACIDE

COYOTE CONTROL AND WOLF CONTROL

RESTRICTED

DANGER POISON

READ THE LABEL BEFORE USING

GUARANTEE: Sodium monofluoroacetate 5 mg per tablet
REGISTRATION NO. 18300 PEST CONTROL PRODUCTS ACT
NET CONTENTS: 5 mg per tablet
GOVERNMENT OF THE PROVINCE OF ALBERTA
Department of Agriculture and Forestry

3115 5th Ave. North
Lethbridge, Alberta
T1J 4C7

NOTICE TO USER:

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the Pest Control Products Act to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

NATURE OF RESTRICTION:

This product is for storage, use and handling only by persons authorized under the Alberta Agricultural Pests Act and by designated Fish and Wildlife Officers of the Government of Alberta.

RESTRICTED USES:

COYOTE

Single Dose Bait

Place one tablet into a bait of about 100g (e.g. chicken head). Place up to three of these poisoned baits at a coyote site. Cover treated baits with 5 - 10 cm of soil, snow, vegetation or other material to prevent exposure to birds.
Limitations 1 through 7 inclusive, 12 through 16 inclusive

Multi Dose Bait

Place up to six tablets into a carcass at a coyote control site and then cover with 30 cm of snow or 15 cm of loose soil. For targeting specific individual coyotes, place up to three tablets into a coyote killed carcass at the predation site.
Limitations 1 through 7 inclusive, 12 through 16

inclusive.

WOLF

Small Bait

Place three tablets into a bait of about 100g. Conceal up to six of these baits under approximately 30 cm of snow or 15 cm of loose soil along trails leading to an unpoisoned carcass or in a circle around an unpoisoned carcass.

Limitations 8 through 13 inclusive

Large Bait

Place up to twelve tablets into a carcass that is securely anchored. Cover the bait with 30 cm of snow or 15 cm of loose soil.

Limitations 8 through 13 inclusive

Use Limitations

1. Tablets inserted into a carcass should be placed deep in a horizontal cut to prevent scavenging birds from accessing the tablet.
2. For use only to control offending animals in areas where proper herd management is practiced to discourage predation.
3. Do not apply this product if species at risk (for example the swift fox) that may feed on Compound 1080 bait or on poisoned carcasses are present in your (local or specific) area. For information on species at risk in your area, contact the Fish and Wildlife Division of Alberta Sustainable Resource Development.
4. For use where verified predation of livestock or game production animals has occurred within the past 30 days.
5. For use by Alberta Fish and Wildlife Services personnel on public land where predation of domestic animals or other problems occur requiring coyote removal.
6. Sodium monofluoroacetate tablets must not be set nearer than 800 metres from the boundary of a hamlet, village, town or city, nor closer than 400 metres to a residence except that of the landholder who has approved the use of the tablets.
7. The user of tablets must remove and destroy all poisoned baits within 15 days of initial placement.
8. For use only by designated Fish and Wildlife Officers of the Alberta Government.
9. For use where verified wolf predation of domestic animals has recently occurred or where a serious threat to human safety exists.
10. For use only under official approval by the Minister responsible for wildlife, where predation has been identified as the primary factor affecting survival of a specific wildlife population.
11. Do not set bait within 800 metres of an inhabited dwelling.
12. To prevent hazard of secondary poisoning, any baits removed from use or the carcasses of poisoned coyotes or wolves must be burned or buried to a depth of 60 cm (2 feet). Vials and unused product must be disposed of in accordance with provincial requirements.
13. The user of tablets must immediately post warning signs at all normal access points to land where poisoned baits are set and remove signs at end of poison use.
14. The user of tablets must provide a copy of this label to the landholder on whose land tablets are being used.
15. The user of tablets must monitor and keep accurate records on the use of each poisoned bait.
16. The user of tablets must inspect poisoned bait at least every 7 days.

PRECAUTIONS:

KEEP OUT OF REACH OF CHILDREN AND UNAUTHORIZED PERSONNEL.
Sodium monofluoroacetate is toxic to all warm-blooded animals. Store sodium monofluoroacetate tablets under lock and key in a dry place away from food, feed, domestic animals, and corrosive chemicals. Do not use in any manner that could contaminate food or feed. Wear gloves when handling tablets. Wash hands thoroughly before eating or smoking. Place poisoned baits to minimize non-target poisoning of wild and domestic animals. Keep dogs and cats on a leash or confined when poisoned baits are set.

DISPOSAL:

Burn unconsumed poisoned baits, toxicant containers and damaged or unusable tablets at high temperature or bury to a depth of 60 cm. For information on the disposal of unused, unwanted product and the cleanup of spills contact the provincial regulatory agency or the manufacturer.

FIRST AID INSTRUCTIONS:

Speed is essential. Immediately cause vomiting by inserting a finger down the throat. Repeat until vomit fluid is clear. Then give 30 ml of Epsom salts in water. Have victim lie down and keep warm and quiet. Call a doctor or the Poison Control Centre (1-800- 332-1414) immediately.

TOXICOLOGICAL INFORMATION:

Sodium monofluoroacetate poisoning results from fluoroacetate changing into fluoroacetate within cell mitochondria. Poisoning is characterized by a symptom-free period of 0.5 to 2 hours or longer between ingestion and onset of symptoms (nausea, vomiting, diarrhea, and hyperactive behaviour leading to convulsions). In monkeys, and presumably in humans, effects on the heart are the primary cause of death. The first symptoms of poisoning are changes of heart sounds and premature, weak contractions. No effective antidote is known, but treating the symptoms is effective in approximately 50% of human cases. Immediately cause a victim to vomit all stomach contents and give Epsom salts (magnesium sulphate). Compounds capable of supplying acetate ions give antidotal effects in animals including monkeys; the choice drugs are acetate and ethanol (2g/kg of each). A single dose of magnesium sulphate (800 mg/kg) injected into muscle as a 50 % solution has saved the life of rats dosed with lethal amounts of sodium monofluoroacetate. Complete quiet and rest are required. Symptoms of non-lethal sodium monofluoroacetate poisoning will usually subside within 12 - 24 hours.

11-FEB-2008 2007-4306
24-MAY-2011 2011-2140 Notification : Change in Registrant Address

SODIUM CYANIDE

DANGER POISON

PREDACIDE

RESTRICTED

COYOTE CONTROL

READ THE LABEL BEFORE USING

GUARANTEE: Sodium Cyanide - 84 %

REGISTRATION NO. 25108 PEST CONTROL PRODUCTS ACT

NET CONTENTS: 840 MG OF SODIUM CYANIDE PER M-44 CARTRIDGE

Notification Change

~~GOVERNMENT OF THE PROVINCE OF ALBERTA~~

~~Alberta Agriculture and Food~~
~~Regulatory Services Division~~
~~2nd Floor, Agronomy Building~~
~~6903 – 116 Street~~
~~Edmonton, Alberta~~
~~T6H 5Z2~~

Tel. 1-800-332-1414

Alberta Government/Alberta
Agriculture& Rural Development
Regulatory Services Division
304 - JG O'Donoghue Building
7000 -113 Street
Edmonton, AB T6H 5T6

NOTICE TO USER:

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the Pest Control Products Act to use a control product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

The product and associated equipment used under this label remains the property of the Alberta Government.

NATURE OF RESTRICTION:

This product is for storage, use and handling only by persons authorized under the Alberta Agricultural Pests Act and by designated Fish and Wildlife Officers of the Government of Alberta.

RESTRICTED USES:

COYOTE

Place up to three cyanide cartridges on land where a site is identified for coyote control.

Use Limitations

1. For predator control where a person in possession of a Form 7 permit under the Agricultural Pests Act (ALBERTA) or a Fish and Wildlife Officer has verified that coyote predation of livestock or game production animal has recently occurred.
2. For use by Alberta government authorized personnel to control rabies.
3. The user must remove cyanide cartridges within 30 days of placement.
4. Sodium cyanide must not be set nearer than 800 metres from the boundary of a hamlet, village, town or city, nor closer than 400 metres to a residence except that of the landholder who has approved the use of poison.
5. The user must immediately post warning signs at all normal entry points to land where sodium cyanide is in use and remove the signs when the poison is consumed or removed.
6. The user must keep accurate records of when each cartridge is set.
7. The user must inspect cyanide cartridges at least every 3 days.
8. The user must provide a copy of this label to the landholder when cyanide cartridges are set.

PRECAUTIONS:

KEEP OUT OF REACH OF CHILDREN AND UNAUTHORIZED PERSONNEL. Sodium cyanide can kill all warm-blooded animals. It is extremely poisonous if swallowed, inhaled or absorbed through the skin. Do not breathe cyanide dust or gas. Store cyanide cartridges under lock and key in a dry, well ventilated place away from food, feed, domestic animals, and corrosive chemicals. Keep children, unauthorized personnel as well as dogs and other domestic animals away from set cyanide cartridges. Wear safety glasses, a heavy-duty mask and gloves when setting or inspecting cyanide cartridges. When handling, setting or inspecting cyanide cartridges, always carry an antidote kit containing at least 6 pearls of amyl nitrite in case sodium cyanide is swallowed or inhaled. Always work from the upwind side and never have your face directly over a cartridge that is set to fire. Wash hands thoroughly before eating or smoking.

DISPOSAL:

Do not reuse cartridge storage containers. Bury to a depth of 60 cm or burn at high temperature any unusable or spent cyanide cartridges and containers. For information on the disposal of unused, unwanted product and the cleanup of spills contact the regional office the Pest Management Regulatory Agency, Health Canada.

FIRST AID:

Immediately remove anyone exposed to cyanide from the contaminated area. Have person lie down and keep them warm. Use artificial respiration if breathing has stopped. If swallowed: Start treatment and call a doctor or poison control centre immediately or transport the person to the nearest hospital. Do not induce vomiting unless told to do so by a poison control centre or doctor. Never give anything by mouth to an unconscious person. If in eyes: Hold eye open and rinse with running water for 15-20 minutes, including under the eyelids. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye. If on skin or clothing: Take off contaminated clothing. Flush exposed area of skin immediately with plenty of water, then wash with soap and water.
Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION:

Patient should breathe the contents of an amyl nitrite pearl 15-30 seconds each minute if necessary until 5 pearls have been used. The symptoms of cyanide overdose include weakness, headache, confusion, nausea and vomiting. Higher doses may be followed by gasping for breath, unconsciousness, convulsions, feeble breathing and respiratory arrest and weak or absent pulse. Cyanides attacks the heart, circulatory system and central nervous system as well as the liver and kidneys. Acid must not be allowed to come in contact with sodium cyanide, as gaseous hydrogen cyanide (HCN) will be released. The release of HCN gas produces an almond-like odour, however the odour is undetectable at low concentrations by many people.

ENVIRONMENTAL HAZARD:

This pesticide is TOXIC TO WILDLIFE. Keep out of lakes, ponds and streams. Do not contaminate water by cleaning of equipment or disposing of wastes.

Endangered species such as the swift fox (*Vulpes velox*) inhabit the same ranges as coyotes. Prior to using this product in areas likely to be inhabited by the swift fox (for location see: www.pnr-rpn.ec.gc.ca/nature/endspecies/sar/db08s06.en.html), users may consult with the Alberta Fish and Wildlife office in Medicine Hat or Lethbridge for approval.

To allow the natural movements of endangered, threatened, vulnerable or indeterminate status species that may venture outside provincial or national parks or conservation areas, a buffer zone of 400 metres must be strictly obeyed.

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Alberta

PADIS

Poison & Drug Information Service

www.padis.ca

Toll-Free: 1-800-332-1414

Calgary: (403) 944-1414

Foothills Medical Centre

1403 29th Street NW

Calgary, AB T2N 2T9

WARNING

DANGER

DEADLY POISON or OTHER DEVICES have been set on this property to destroy pests and nuisances in interest of protecting LIVESTOCK.

KEEP CHILDREN, DOGS, AND OTHER

DOMESTIC ANIMALS

AWAY FROM THESE DEVICES.

Tampering with, or the removal of these baits or devices is unlawful.

AGRICULTURE AND FORESTRY REQUESTS YOUR CO-OPERATION IN THIS EFFORT TO PREVENT LIVESTOCK PREDATION.

Alberta Agriculture and Forestry