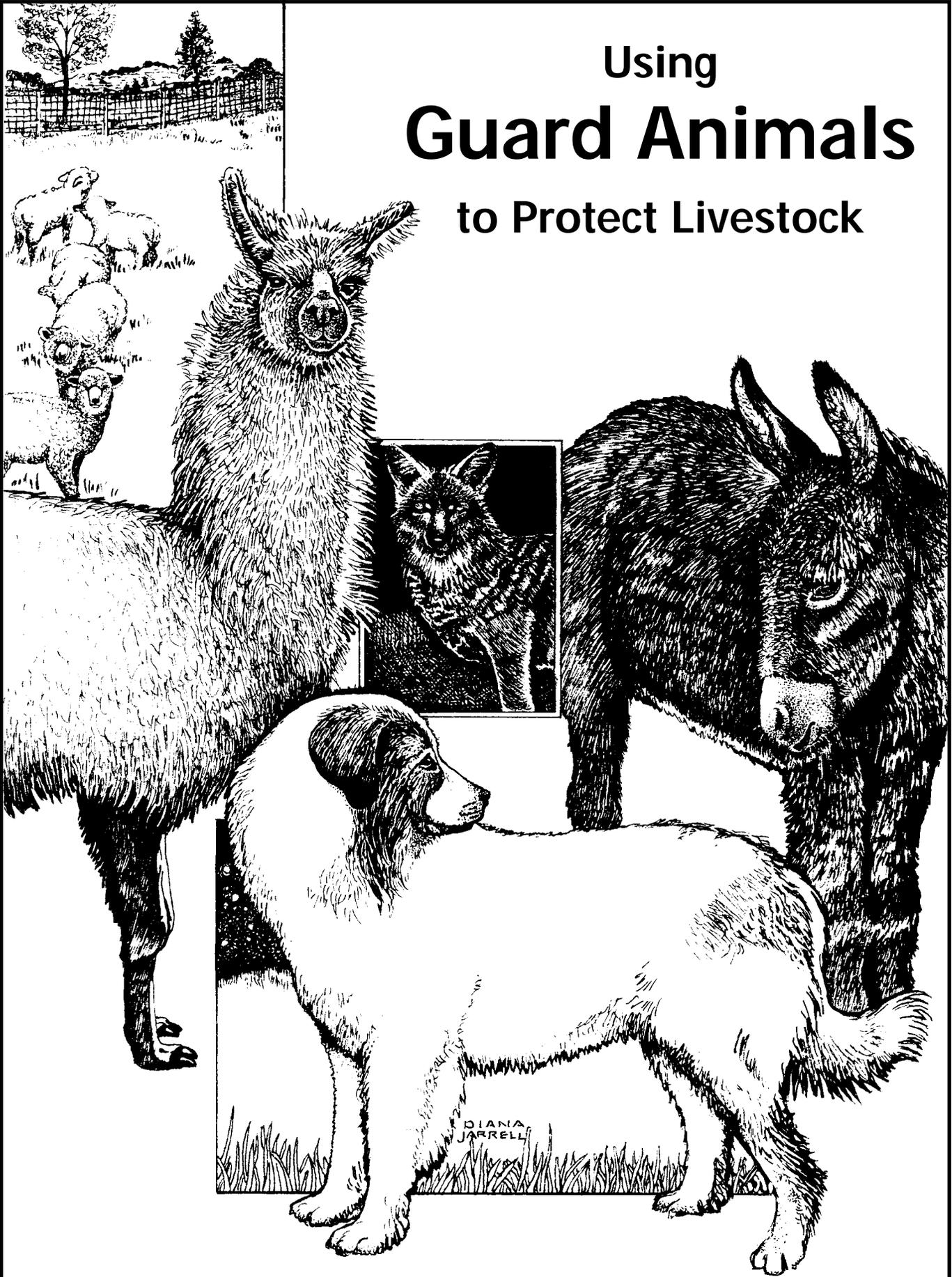


Using Guard Animals to Protect Livestock



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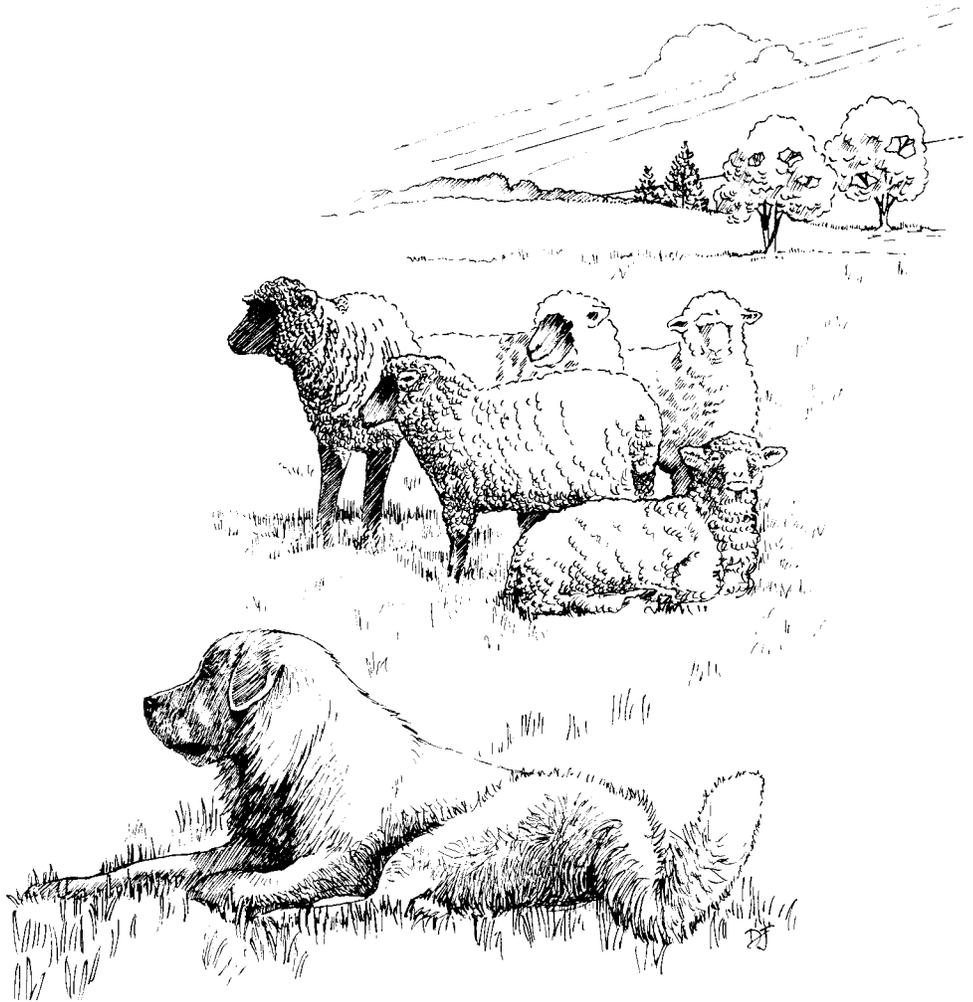
INTRODUCTION

Each year livestock producers across the United States lose millions of dollars from predator attacks on their cattle, sheep and goats. Coyotes are the main cause of livestock deaths followed closely by wild and domestic dogs.

The best way to protect livestock from these canine predators is to take a preventative approach. For many Missourians, using guard animals, such as dogs, llamas and donkeys, have helped cut their losses. This booklet is designed to help livestock producers decide if this approach will work for them.

Managing for predators, however, takes a variety of control methods. There is no one technique, nor will there likely be one, that will solve every producer's problems.

Those who are successful use an integrated approach, combining good husbandry practices with electric fences, guard animals, good herders, trapping, shooting or mechanical scare devices. They also must be flexible enough to use whatever combination of methods solves the problem. This has to be the case because predators always have and always will be a part of the livestock producers' world.



TYPES OF LIVESTOCK PREDATORS

One of the best ways to stop predators from preying on livestock is to understand the habits and behavior of the animals that are causing the problem. By understanding their needs, it may be easier to control their behavior.

Coyotes

From 1977 to 1987, the coyote population increased rapidly in Missouri. These highly adaptable animals are often viewed only as livestock predators. They are, however, important members of the wildlife community.

Coyotes feed mostly on wildlife, which includes rodents that often cause damage to fields and crops.

Coyotes also prey on old, sick and injured animals. As a scavenger of both wild and domestic animals, they are a major factor in maintaining healthy wildlife populations and in cleaning up the environment. According to a study of Missouri coyotes by research biologists Charles and Elizabeth Schwartz, livestock accounts for less than 9 percent of the coyotes' total diet, which indicates that these predators aren't causing as much trouble to farmers as many people believe. Still, coyotes do occasionally kill livestock. Lambs are particularly vulnerable.

An Iowa study revealed that 46 percent of all livestock losses are from nonpredator causes, such as disease and starvation, while canine predators, such as coyotes and dogs,

are responsible for 41 percent of livestock loss. Thirteen percent of the losses in the study were from unknown causes.

When Columbus came ashore in 1492, coyotes lived in about one fifth of the North American continent. Today their range has extended from Alaska through all but the northeast portion of Canada, and throughout the continental United States and Mexico. The coyote is found in the mythology of most Indian tribes from the Athabaskan and Cree of northern Canada to the Mixtec of southern Mexico, which indicates its diversity and widespread distribution.

One of the reasons for its survival is its ability to adapt to the changing environment. The coyote has proven to be much more capable at sur-

living around people than some of its past competitors, such as the timber wolf. As the timber wolf was extirpated from much of its former domain, the more adaptable coyote filled the vacant niche. The red wolf also wasn't able to live in close proximity to people. As the red wolves' numbers decreased, the coyote took over its range, too. Interbreeding with coyotes also helped dilute the red wolves' gene pool.

Timber wolves, which are now extinct in Missouri, used to be the coyotes' main predator. Today that role has been taken over by man. Coyotes are trapped and hunted throughout the state and are valued for the durability and beauty of their long fur. In the Ozarks, hunting coyotes with dogs is a long standing tradition.

The coyote's scientific name is *Canis latrans*, which comes from *canis*, the Latin word for dog, and *latrans*, the Latin word for barker. The common name is from the Aztec Indian word *coyotl*.

Wild and free-running domestic dogs

Wild and domestic free-running dogs are the second leading livestock predator. Feral dogs are a problem in some areas, but are far less common and are less of a problem than domestic dogs.

Both domestic and feral dogs tend to run in packs, and they can do extensive damage to livestock. Attacks by dogs can be distinguished from those by coyotes. Dogs usually attack wherever they can get a hold on the animal. They often bite the hindquarters, causing severe tissue damage. Coyotes, on the other hand, usually go for the throat.

Attacks by dogs may appear to be done as a sport rather than as a means of survival. Dogs often kill several or all of the livestock in an area or pen and may abandon their kill without feeding on it.

Dogs will chew on legs, ears and tails and often mangle the animals rather than killing them. Coyotes usually will kill only one animal and will take it off to be eaten.

Most dogs that cause damage belong to someone. Never dismiss dogs as a potential predator just

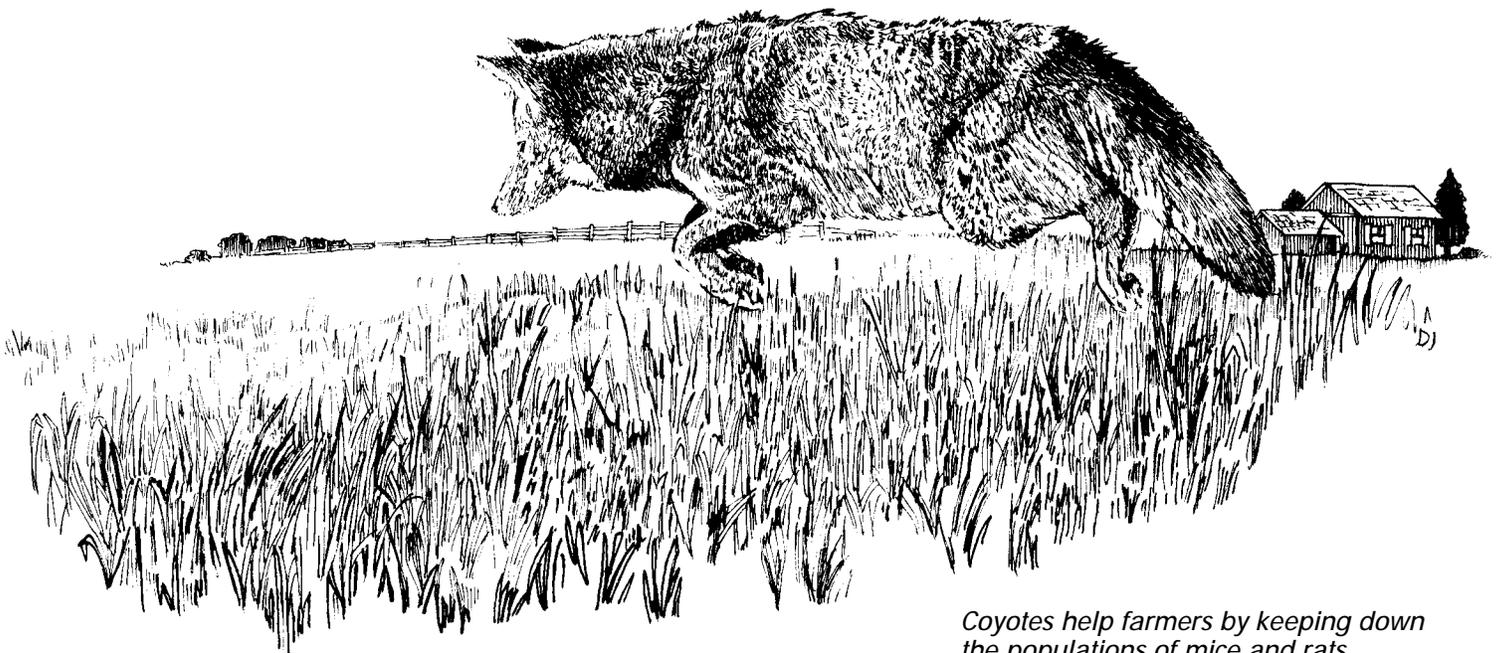
Coyote diet

A study of Missouri coyotes showed that they eat a variety of food. Here is a list of what was found in the stomach of 770 coyotes and the percentage by volume:

Rabbits	53.7%
Poultry	11.3%
Livestock	8.9%
Mice and rats	8.7%
Other wild animals	7.5%
Carrion	5.8%
Plants	2.0%
Insects	0.8%
Miscellaneous	0.8%
Wild birds	0.5%

— FROM *The Wild Mammals of Missouri*
BY CHARLES AND ELIZABETH SCHWARTZ

because you haven't observed feral dogs in the area. The attacker could very likely be a neighborhood dog or even the family pet.



Coyotes help farmers by keeping down the populations of mice and rats.

TYPES OF GUARD ANIMALS

Many Missourians protect their livestock with the help of guard animals. There are advantages and disadvantages to using each type of guard animal. The following information should help livestock producers decide if an animal would be a valuable asset to their operation.

Guard dogs

Trained dogs have been used to protect sheep and goats from predators for many centuries in Europe and Asia. However, acquiring a dog usually is not a quick solution to a predator problem.

Training a puppy to become a mature and effective guardian requires considerable time, effort and good fortune. In spite of a lot of time spent in training, some dogs will never be effective at stopping predators. In some cases, a dog may be all that is necessary. In others, dogs may be used to supplement electric fencing, trapping, hunting or other forms of control.

It is important to understand the distinction between herding dogs and guard dogs. Herding dogs work according to verbal and hand signals from a handler, and they are generally not left alone with livestock. Guard dogs usually do not herd. They are discouraged from biting,

chasing and barking at livestock, and they act independently of people.

An ideal guard dog is intelligent, alert and confident. It must act independently and instinctively while protecting the flock or herd. It should investigate and aggressively confront intruders. Above all, the dog must be attentive to livestock and not harm them.

When selecting a puppy, look for one that appears self-confident and alert. Also check the parents to see if they have the temperament of a good guard dog. Studies have shown that a dog's general temperament can be assessed at six to eight weeks of age.

Pups that make the best guard dogs bark as an expression of aggressiveness and suspicion, but not fear. A dog that is shy around people may show appropriate aggression to predators and have a strong bond with livestock, but the chances for success are probably greater by selecting a self-confident pup.

Studies also indicate that there is no difference between the success of male and female pups. However, to avoid future problems, the sex of the dog might be a consideration if several dogs are to be used.

Neutering usually is beneficial and should be done at six months of age for females and nine months for males. There is no indication that neutering is detrimental to a dog's ability to guard. It does, however, eliminate problems, such as attracting free-running dogs to a guard dog in heat or a male guard dog running off when a nearby dog is in heat.

Removing a female to a kennel during heat periods, pregnancy, whelping and nursing also diminishes the time the dog is available to protect livestock.



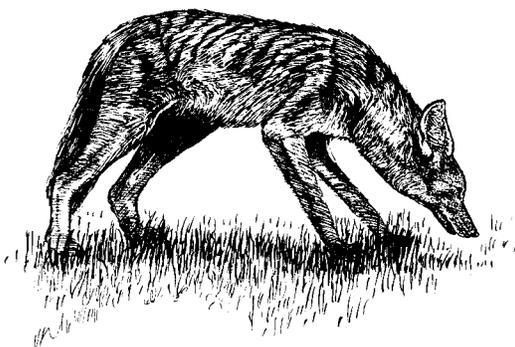
Training and care

First-time guard dog owners should begin with a single pup. If additional dogs are needed because of increased predation, topography or pasture habitat, they can be added later. However, if more than one pup at a time is being trained, it is important to raise them separately so they don't bond with each other and ignore the livestock.

To channel the pup's natural instincts into the desired characteristics of a mature guard dog, a bond must be established between the pup and the livestock. The optimum age to begin a continuous association with the livestock is between seven and eight weeks.

Socialization in dogs is a developmental phase during which permanent emotional attachments are easily and quickly formed. The socialization process begins as early as three weeks, peaks at six to eight weeks, and often levels off at 12 weeks. A dog left in a kennel beyond this time may be permanently shy and have difficulty adjusting to later changes in its environment.

The ideal place to rear a guard dog pup is in a small, well-constructed pen or corral. If the pup cannot escape, the bond with the



A large guard dog often intimates the much smaller coyote. Popular breeds of guard dogs include Great Pyrenees, Komondors, Anatolian shepherds and Akbashs.

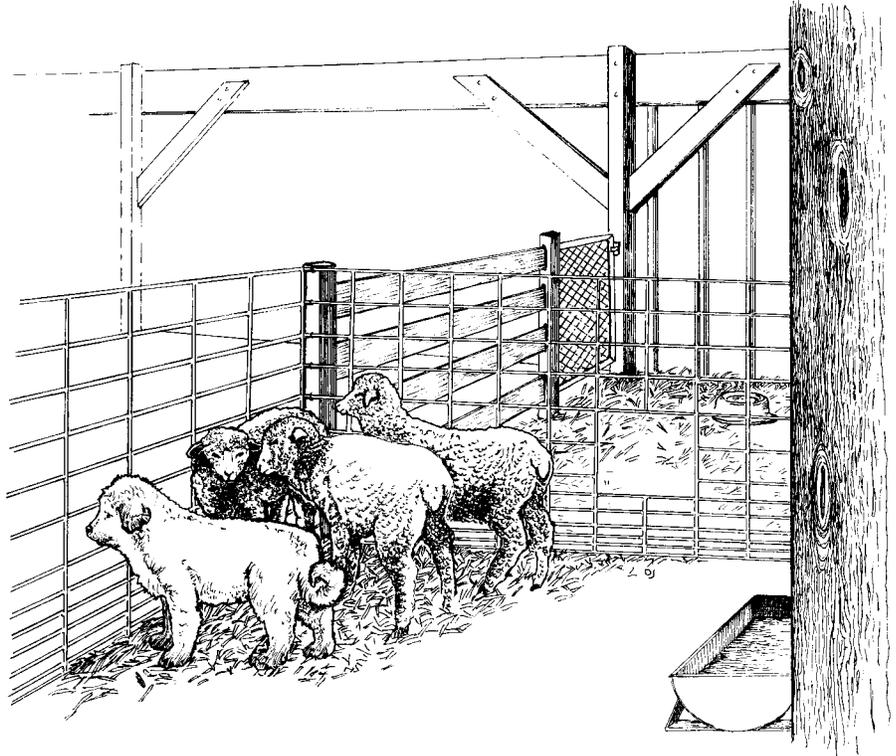
livestock develops more easily, and the urge to return to the kennel or to be around people diminishes.

The pup's training pen should be about 150 square feet and made to expand as the dog grows. The pen should contain three to six animals that you want to protect, preferably young ones. If young animals are not available, pick ones that will not be aggressive toward the young pup. It is ideal to rotate a number of animals through the pen to expose the dog to the livestock it live with and guard.

The pen should contain a small area from which the livestock is restricted. Wooden or wire panels that the dog can crawl through, but the livestock cannot, should be used to partition this area from the rest of the pen. The dog's food and shelter should be placed in this restricted area. It is desirable to have the water in an area common to both the pup and the livestock to force some mingling.

The pup should be checked several times a day for the first few days and then at least daily thereafter to ensure that it can find food and water easily and that the livestock and dog are interacting properly. During these daily checks it is permissible to pat the dog, but avoid excessive handling. During this socialization process, the emphasis is on the dog-to-livestock association. The dog-to-human association should be minimized.

Some dog breeders allow four-week-old litters to be in the company of young lambs with good results. Body contact between the dog and sheep enhances the formation of a strong bond. Separating litter mates after seven weeks is desirable because the lone pup seeks companionship from the sheep. After the pup is at least 16

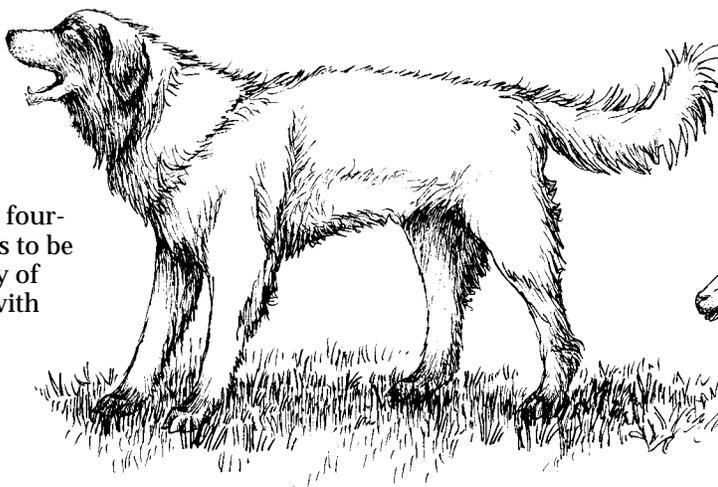


weeks old and has been exposed to the initial socialization period, it can be put into a larger area or with the rest of the flock in a pasture.

After training, some dogs display a greater sense of responsibility when they are moved from a small barn or pen to a large pasture with the livestock, but others may need to

be closely monitored. Some pups may not stay in one pasture, but may readily stay in another. Other dogs have difficulty in adjusting to frequent moves to different pastures. Each dog is different, and there are no guarantees.

The level of human contact will vary with each dog according to its temperament. A young dog should be visited daily in the pasture. This will provide the opportunity to observe its health and briefly praise it for remaining with the livestock. This also is the time to bring the dog's food and fresh water. A dog house or simple shelter should be provided that will keep



Potential benefits with using guard dogs

A good guard dog that is well supervised can:

- reduce predation.
- reduce labor that was previously required to confine or corral sheep at night.
- make more efficient use of pastures and improve the condition of sheep if night confinement is no longer needed.
- increase the use of acres where predators used to make grazing prohibitive.
- provide the opportunity to increase the size of the flock or herd if more acres are free of predators.
- alert owner to predator and other disturbances near the livestock.
- increase the owner's self-reliance in managing predator problem.
- provide protection for family members and farm property.

Potential problems with using guard dogs

Guard dogs require training and supervision, but there are no guarantees that their temperament will allow them to be a good guard dog. Even a trained dog must be supervised because they may:

- harass livestock resulting in injury or death.
- be overly aggressive to people.
- harass wildlife or other livestock.
- destroy property.
- be subject to illness, injury or premature death.
- roam beyond farm boundaries causing problems with neighbors.
- interfere when livestock are moved or interfere with herd dog.
- affect the use of other predator methods.

the dog and its food from being exposed to the weather.

As the dog matures, less contact is required; but too little contact can cause a dog to be shy and fearful of people. This will cause difficulties in handling and controlling the dog. In almost all operations, handling and controlling the dog is essential.

First and foremost, a guard dog is a working animal and should be treated as such. The dog, however, should understand what "no" means. It should be taught to come when it is called or at least remain still so it can be caught. Having control over the dog allows the livestock producer to care for the health of the dog and to have the dog come if it or the livestock are in danger.

In some instances a verbal reprimand is not sufficient to get a dog's attention. A light swat with a rolled up newspaper may be in order. The intent is to get the dog's attention, not hurt it. Once a correction is given, the dog should be shown the correct and desired behavior, then praised when it responds properly. The handler should follow a reprimand with a pleasurable experience or reward. For punishment to be effective, it must be given within seconds of the undesired behavior. Reprimands given hours or even minutes after a misdeed has occurred are meaningless to the dog. Training should continue as the dog matures, but formal training need only persist as long as it is necessary.

Lambing

Before, during and immediately after lambing, the playful behavior of young dogs often upsets ewes, who are more defensive and subject to stress during this time. It is best at this time to keep young or immature dogs from direct contact with the ewes. If possible, keep the dogs in an adjacent area to maintain some contact with the sheep.

Once lambing is completed and the ewes and lambs have been turned into mixing pens and are "mothered up," the dog can be brought back into the pen for short periods of time. Lambs quickly



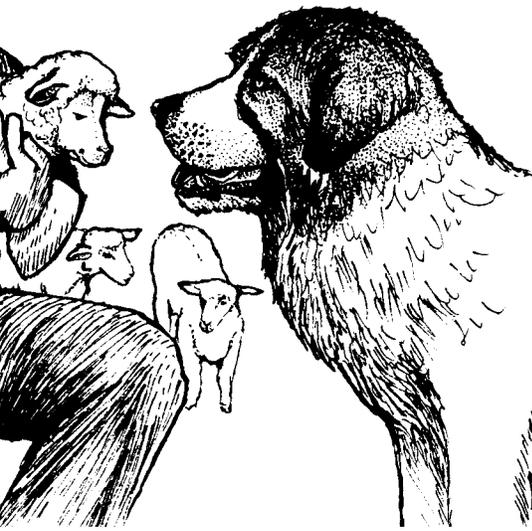
become accustomed to the dog, and the ewes soon learn that the dog poses no threat. If the dog acts calmly, it can be left alone with the sheep for longer periods of time until it remains with them permanently.

Once the dog experiences a lambing season and proves it can behave correctly, it may be allowed free access to the entire lambing operation. Owners report that some guarding dogs take a great deal of interest in lambing, protecting lambs from inclement weather, and even assisting the ewe in cleaning newborn lambs.

Most dogs will eat sheep after-birth and tails. This does not seem to cause a dog to be more inclined to kill sheep, but it may result in some dogs becoming possessive of dead livestock. It is best to remove dead sheep carcasses and not allow dogs to feed on them. There also are some potential parasitic and bacterial health hazards associated with dogs eating sheep carcasses. In addition, the presence of sheep carcasses may attract predators.

Calving

While there is limited information available on using guard dog during



are about one-fourth the size of adult guard dogs and usually will avoid a direct encounter with the larger animals. Encounters between guard dogs and intruding dogs are different. Whereas most coyotes will avoid a confrontation, intruding dogs may spend time smelling and posturing around the guard dog. Fights may occur, but more likely the intruding dog will leave after a brief period of investigation. Occasionally, guard dogs join intruding dogs and attack their own herd.

Guard donkeys and mules

Another method of protecting livestock from predators is to introduce guard donkeys or mules. Their use is based on two theories: Donkeys and mules naturally hate dogs, are not afraid of them and love to intimidate them; and these sociable animals will associate with other species in the absence of their own kind.

Donkeys and mules are just like people when it comes to personalities. Some will work hard, some will hardly work, and some

won't work at all. Although there are no guarantees as to which ones will effectively guard livestock, the odds may be improved by purchasing animals that have been trained to associate with livestock. When buying bonded donkeys, expect to pay from \$200 to \$400. Untrained stockyard donkeys will cost from \$35 to \$75, and may have to be culled later.

Female donkeys, or jennies, are the easiest to work with. Jennies have shown to be gentler with sheep and more aggressive toward dogs, especially while they are nursing foals. Mare mules, castrated jacks, intact jacks and horse mules also can be used, but often times are more aggressive toward the livestock.

Training and care

For best results, introduce one donkey to a group of sheep or livestock in a pasture smaller than 80 acres. It is difficult for one donkey to patrol larger areas. Once livestock get used to a particular donkey, they will seek its protection when something frightening enters the pasture.

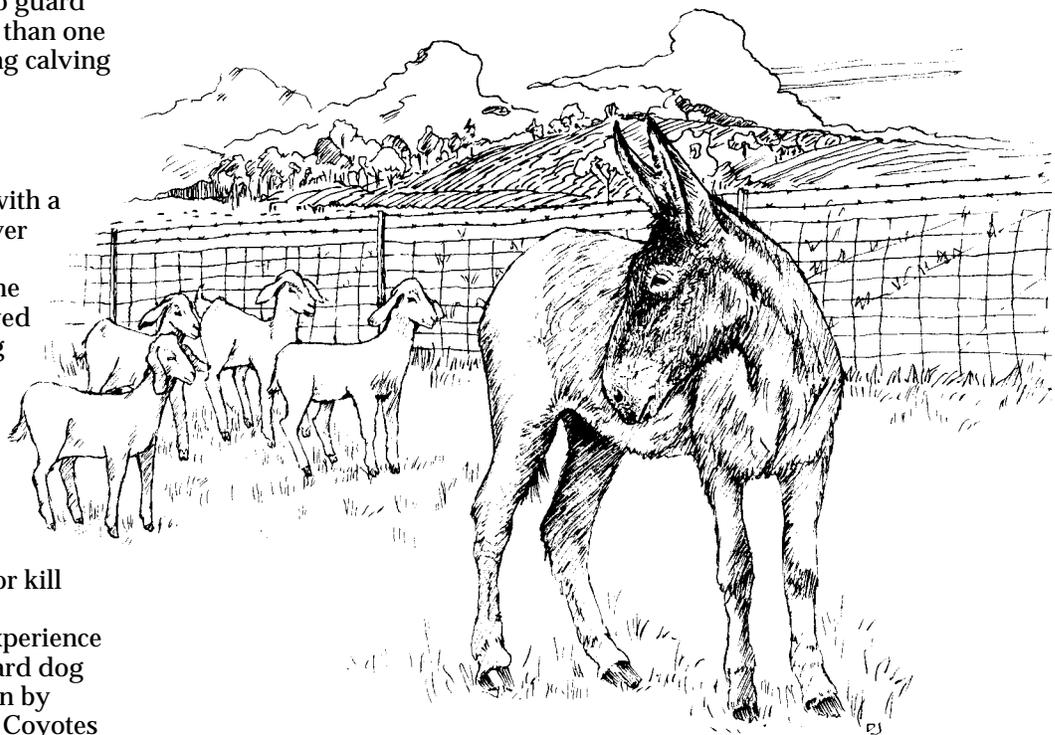
Avoid placing donkeys in adjoining pastures because they will visit

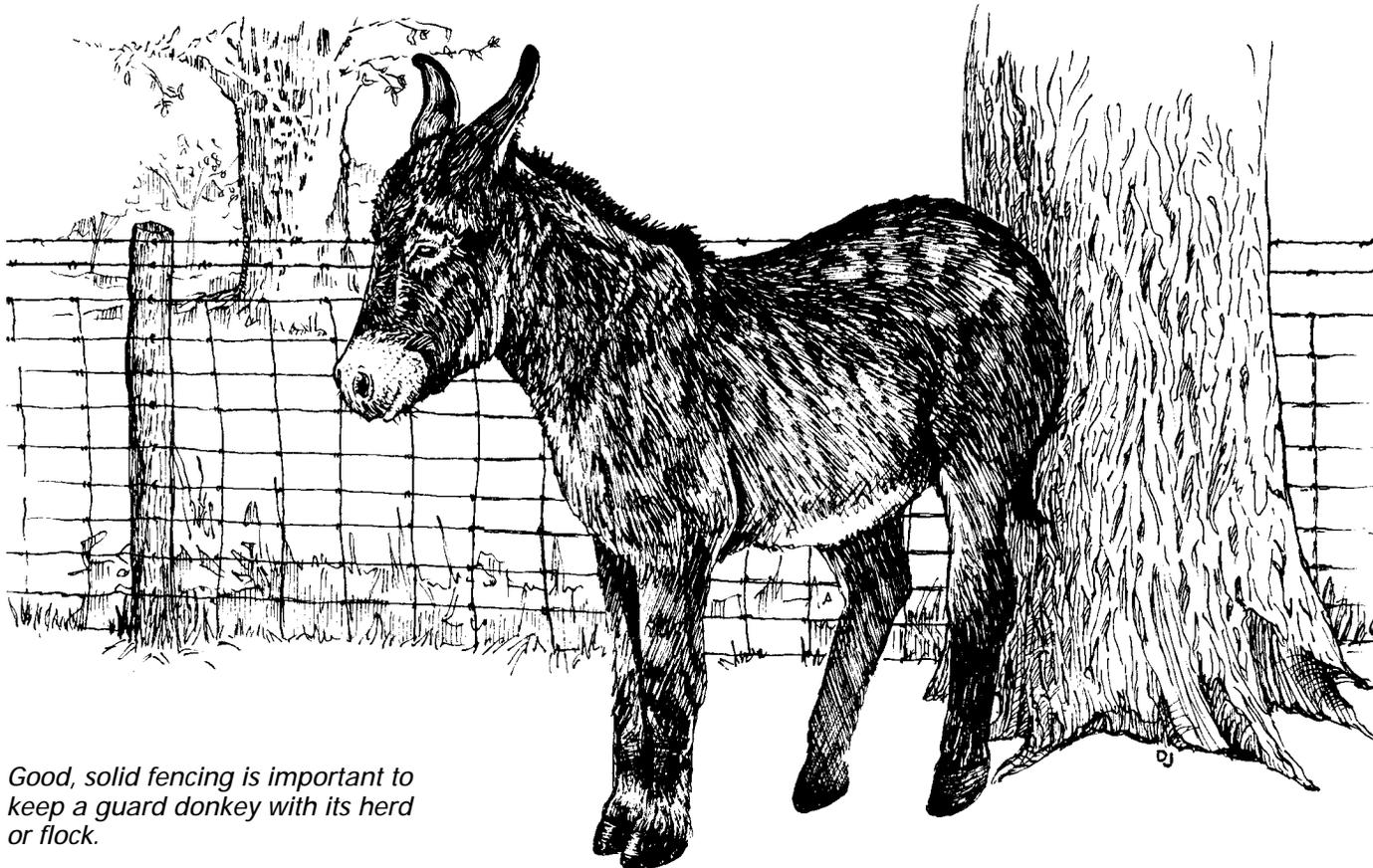
calving, several Missouri cattle producers have reported good results. Guard dogs seem to cause no threat to cows or calves and have been observed warding off other dogs and predators during the calving process. The isolation of cows from the herd during calving, however, can diminish the dog's effectiveness to guard the entire herd. Using more than one dog may be necessary during calving season.

When problems arise

Predation may occur even with a guard dog at work. Whenever this happens, livestock producers should first determine whether the dog was involved in the killing. Check the dog for blood around its face. Also check the carcass to see if it has been chewed on. Suspect the dog until it is clear that it was not at fault. Studies indicate that 14 percent of all guard dogs have been known to injure or kill sheep.

Research and practical experience have shown that a good guard dog effectively reduces predation by coyotes and domestic dogs. Coyotes





Good, solid fencing is important to keep a guard donkey with its herd or flock.

across the fence instead of tending to the flock or herd. Solid fences are a must. Donkeys will jump cattle guards and find any hole or weak spot in the fence to get to a nearby donkey.

Low maintenance is a big advantage in owning a guard donkey.

These animals often live 20 to 25 years with their most productive years between the ages of 3 and 12. Maintenance includes only occasional hoof trimming and perhaps filing their teeth. Donkeys eat what the sheep eat and require no special foods.

To condition the donkey to feel more like a part of the herd or flock, it is a good idea to feed it something each time the animals it is guarding are fed. This causes a donkey to realize that if it stays close to the flock or herd, it will never miss a meal. Do not feed donkeys near barns, build-

Tips on using guard donkeys or mules

In addition to routine veterinary care and husbandry practices, effective guard donkey performance guidelines are as follows:

- Select donkeys from medium to large size stock. Do not use extremely small or miniature donkeys.
- Do not acquire a donkey that cannot be culled or sold if it fails to perform properly.
- Use jennies and geldings. Jacks are usually too aggressive.
- Test a new donkey's guarding response by challenging the donkey with a dog in a corral or small pasture.
- Use only one donkey or jenny and foal per pasture.
- Isolate guard donkeys from horses, mules and other donkeys.
- To increase probability of bonding, donkeys should be raised from birth or placed at weaning with livestock.
- Raise guard donkeys away from dogs. Avoid or limit the use of herding dogs around donkeys.
- Monitor the use of guard donkeys at lambing, calving or kidding as some may be aggressive to newborns or overly possessive. Remove the guard animals for a period of time if necessary.
- Use donkeys in open pastures with no more than 200 head of sheep, goats or cattle for best results. Large pastures, rough terrain, dense brush and too large a herd lessen the effectiveness of guard donkeys.

ings or corrals. You want the donkey to feed and graze with the livestock all day.

Also, never overfeed a donkey. Excess weight results in decreased efficiency and laziness. If kept in good condition, donkeys are quite agile and capable of chasing predators. As with guard dogs, remove donkeys during lambing and calving, particularly if the animals are confined, as a precaution against accidental or intentional injuries to the young or disruption of the mother to offspring bond.

There is limited scientific literature available on the use of donkeys as guardians of sheep, cattle and goats against predators. A large number of herd owners, however, are finding them extremely effective in predator control. Low costs and compatibility with other predator control methods contribute to the popularity of the animal.

Many livestock owners have had excellent results and have been very pleased with guard donkeys, but their use does involve some man-

agement. It would not be fair to simply place a donkey in with a flock of sheep or herd of cattle and expect things to just take their course.

Common sense management is essential to succeed with guard donkeys.

Guard llamas

Llamas are aggressive toward both dogs and coyotes and are the most recent guard animal to be used for predator control. After spotting an intruder, most llamas give an alarm call, then walk or run toward the animal chasing it, kicking and pawing, and at times killing it. Nearly 70 percent of guard llamas are gelding males that cost from \$300 to \$800. Intact males cost around \$100 less. Females are effective as guard animals, too, but they usually cost more.

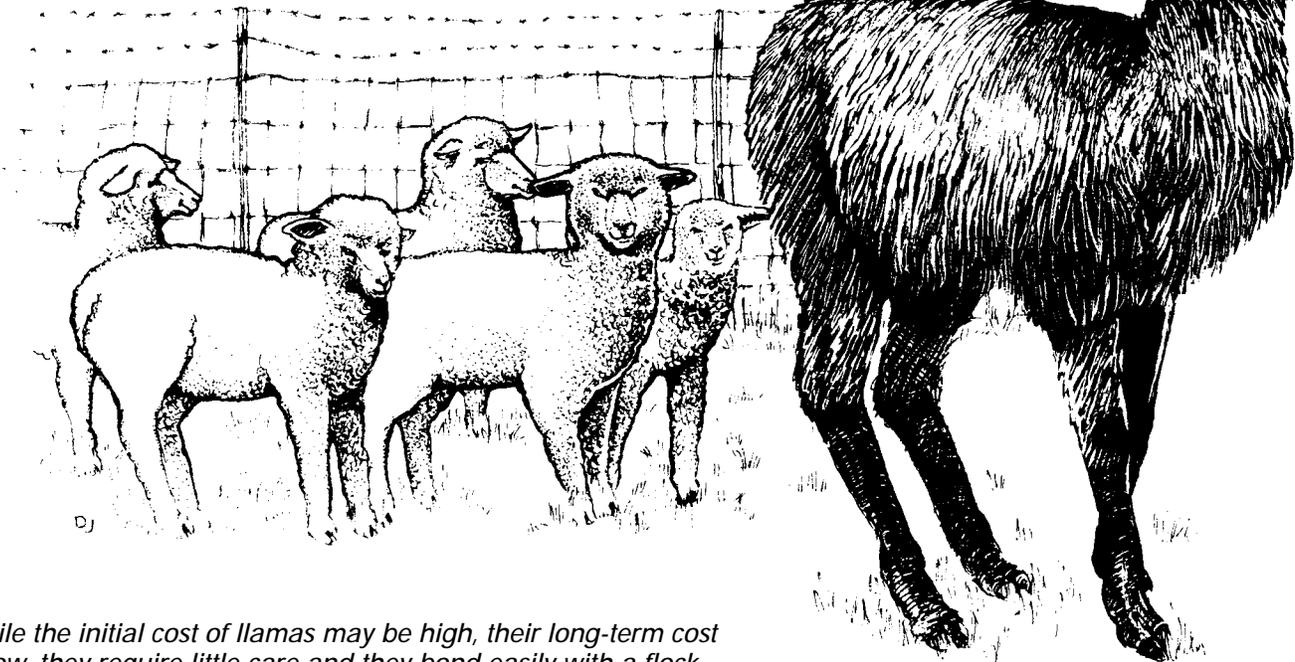
At these prices, guard llamas are expensive initially, however, their longevity of 12 to 18 years and their usefulness as a guard animal make the price reasonable over time.

Additionally, llamas are easy to handle and usually can be trained in a matter of a few days. A study at the University of Iowa using llamas as a part of integrated sheep protection, revealed that 95 percent of all llamas are effective guard animals.

Nearly all llamas in the Iowa study had no experience with sheep before being introduced into the flock they were to protect. The llamas averaged 2 years of age when introduced to sheep, but most were between 6 and 11 months. Llama breeders traditionally wean offspring at 6 to 8 months of age and castrate males at 6 to 24 months of age.

Training and care

Llamas can be introduced to small or



While the initial cost of llamas may be high, their long-term cost is low, they require little care and they bond easily with a flock.

large flocks. When first put in a pasture with sheep or goats, the llama will be either curious or neutral toward its new companions, while the sheep are either neutral or afraid. In the Iowa study the initial adjustment period usually lasted only a few hours for most llamas, and nearly 80 percent adjust within a week. Many producers report that guard llamas show intense interest and attachment to young lambs.

Once a llama becomes familiar with an area and is attached to the sheep, the pasture becomes the llama's territory and the flock becomes the llama's family group. Even for the gelded llama, these innate behaviors remain.

Guard llamas are not passive bystanders. They are active leaders and protectors of their flocks. During daily movements of a flock, llamas may take the front position to lead the sheep, walk and graze in their midst, or trail at their heels.

Multiple guard llamas work in some cases, but overall, the Iowa study showed that predation was higher in flocks with more than one llama. This group experienced 7 percent loss to predators compared with 1 percent loss in flocks protected by one llama.

The study also showed that introducing a llama to a flock in a corral resulted in less predation than those that were first placed in an open field with their new flock. It doesn't seem to make any difference in the bonding whether the sheep have

lambs or not. Llamas often play with lambs without harming them.

Llamas do not require much attention. A 250-pound gelded llama typically consumes 7 to 10 pounds of good grass hay per day. Granular or block mineral supplement and access to fresh water should be made available. Grain is not necessary. Llamas typically don't bloat, even with a sudden change of pasture or hay.

Even though the Iowa study didn't involve the use of llamas as guard animals with cattle, many Missouri cattle producers use them with productive results. The llamas seem to bond with the cattle just as easily as they do with sheep or goats.

Multi-species grazing

Stocking pastures or ranges with more than one animal species is another method of protecting livestock from predators. This multi-species grazing often contributes to a more uniform and complete use of the available forage, while providing a higher net return to the producer. Cattle prefer grass, sheep prefer weeds, and goats prefer shrubs and trees. However, when unbonded cattle, sheep and goats are placed together on the same pasture or range, they seldom graze or browse together and often suffer losses to predators.

Nursing calves are seldom killed by predators unless they become separated from their mothers. This is

probably due to the aggressiveness of mother cows toward canines. Therefore, if sheep and goats stay close to cattle, they may receive protection. A study conducted by the USDA Research Service indicated that lambs penned in close confinement with five cattle for 60 days bonded with the cattle.

When the lambs and cattle were turned out to pasture, the lambs consistently followed the cattle; and none were lost to predation in an area with a history of losses to predators. To verify the bonding process, nonbonded lambs also were turned out into the same pasture. They were killed by coyotes at the rate of one every five days. None of the bonded lambs were lost.

Group reactions

Subsequent studies have shown that when a dog threatens bonded lambs, the lambs run and huddle among the cattle. Conversely, nonbonded sheep run away from the protection of the cattle when threatened. Therefore, protection appears to be due to both affinity of sheep to cattle and intimidation and aggression by cattle toward threatening canines. Aggression by cattle also can cause negative effects. If the cattle are persistently aggressive toward the lambs during close confinement, bonding may be delayed or even prevented.

Angora kid goats also have been confined with cattle in an attempt to produce a goat-cattle bond. USDA studies indicate that kid goats usually follow cattle, but there were frequent separations.

When kid goats were confined with cattle for a short period of time, they formed an attachment to the cattle and consistently stayed with them. The animals stayed together, forming a multi-species livestock group, which is called a flerd.

The researchers also compared the incidence of predation in the non-bonded group of kid goats and cattle with the bonded group of kid goats, sheep and cattle. The results indicated that coyotes took several kids in the cattle-goat herd. This was attributed to the goats frequency separating from the cattle.

Potential Benefits to using guard llamas

- Most llamas require a few days or less to bond with livestock.
- One gelded male llama often can protect 300 sheep on 300 acres.
- Predator loss may be reduced to as low as 1 percent.
- In spite of the initial cost, llamas may save livestock producers money in the long run.
- Llamas are very protective of livestock and are easy to maintain.

Potential problems with using guard llamas

- Veterinarians with the expertise in treating llamas may be difficult to find.
- Initial cost is high.

No animals were lost in the goat-sheep-cattle bonded group during an additional 163 day test period. When guard dogs were added to the flerd, only one sick sheep that had dropped out of the flerd was lost over a two-year period. According to the study, the best biological method for protecting livestock from predators is to bond sheep and goats to cattle and to use a guard animal.

Feeding habits

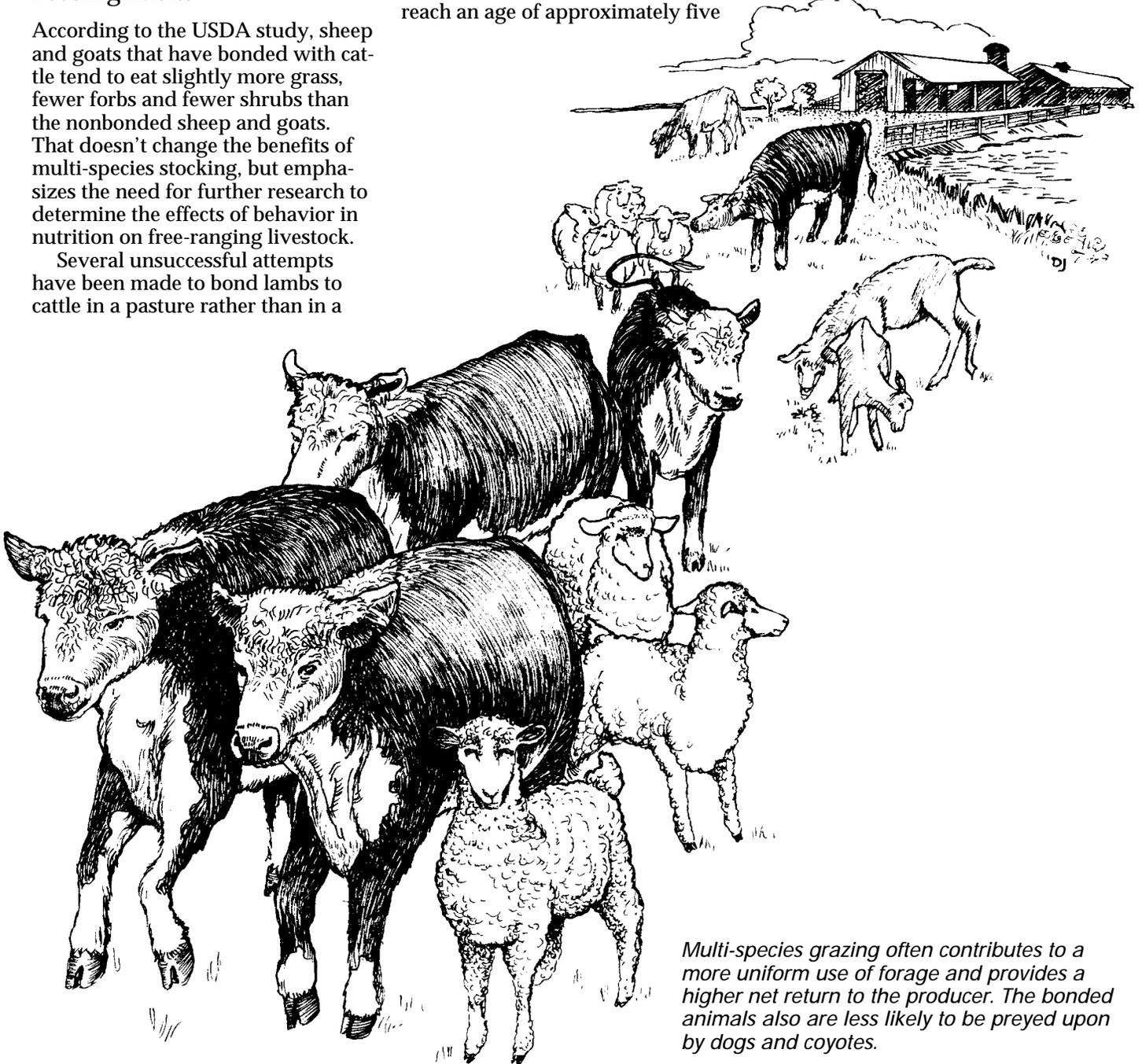
According to the USDA study, sheep and goats that have bonded with cattle tend to eat slightly more grass, fewer forbs and fewer shrubs than the nonbonded sheep and goats. That doesn't change the benefits of multi-species stocking, but emphasizes the need for further research to determine the effects of behavior in nutrition on free-ranging livestock.

Several unsuccessful attempts have been made to bond lambs to cattle in a pasture rather than in a

pen. The obvious advantages to this system would be labor- and feed-saving costs. This type of bonding doesn't work because the ewes tend to separate from the flerd, which leads to predator losses.

The only successful alternative is to gather the ewes and lambs as soon as possible after birth and maintain them in a safe environment for approximately two weeks. Bonded ewes can then be returned with their lambs to the flerd. When the lambs reach an age of approximately five

months, the ewes can be removed from the flerd for one week to terminate lactation. When the ewes return to the flock, the lambs still will recognize and stay with their mothers, but lactation will have stopped. After about one year, the lambs should function satisfactorily as an integral part of the flerd. The USDA studies found that yearling ewes that had no previous association with cattle develop an attraction after a period of confinement.



Multi-species grazing often contributes to a more uniform use of forage and provides a higher net return to the producer. The bonded animals also are less likely to be preyed upon by dogs and coyotes.

FOR MORE INFORMATION

Missouri Department of Conservation's wildlife damage control section has a team of experts ready to help with predator and other wildlife damage problems. Through this program, trained wildlife damage biologists and conservation agents work with farmers, ranchers and landowners to control or solve immediate problems, and to prevent future damage.

If a problem arises, first contact the local conservation agent for assistance. If the agent cannot resolve the issue, a wildlife damage biologist will be notified. These experts will discuss various nonlethal or lethal control methods and advise the best approach to solving the problem. They also can show how to use specialized equipment, such as traps.

For more information on using guard animals, contact the following:

Guard dogs

The Komondor Club of America Inc.
Sandra Hanson
W. 359 S10708 Nature Road
Eagle, WI 53119

Great Pyrenees Club of America
Judy Brown
3360 Jackson Drive
Jackson, WI 53037

Maremma Sheepdog Club
of America
George McClellan
P.O. Box 546
Lake Odessa, MI 48849

Polish Tatra Sheepdog Club
of America
Bill Schrange
P.O. Box 1265
Spokane, WA 99210

Guard donkeys and mules

American Mule Association
Roxy McIntosh, Secretary
6725 Union Road
Paso Robles, CA 93446

American Donkey and Mule Society
2901 N. Elm St.
Denton, TX 76201

American Council of Spotted Asses
John Conter, President
2126 Fairview Place
Billings, MT 59102

Guard llamas

International Llama Association
2755 S. Locust St. #114
Denver, CO 80123
303/756-9004

Rocky Mountain Llama
and Alpaca Association
P.O. Box 1189
Lyons, CO 80540
303/823-5409

Llama Association of North America
1800 S. Obenchain Road
Eagle Point, OR 97524
541/826-5262

Greater Appalachian Llama
Association
P.O. Box 6992
Harrisburg, PA 17112-0992
410/592-7050