

# Sheep producers fight fangs with fangs

WASHINGTON, D.C. — Guard dogs, the enforcers of the canine world, can also be a lamb's best friend. They're watchful and extremely protective of their charges — both sheep and cattle.

Although herding dogs have been popular for years, livestock guard dogs are just beginning to catch on in the U.S. They're part of a new program that may help solve an old problem, livestock losses from predator attacks.

For the past 3 years, researchers at USDA's Sheep Experiment Station in Dubois, Idaho, have been testing dogs' effectiveness in guarding sheep. According to the station's wildlife biologist, Jeff Green, most of their canine guardians have worked out very well. Green and his colleagues have already studied about 30 dogs, mostly of the Komondor and Great Pyrenees breeds, the only traditional livestock guarding dogs now commonly used in this country.

"The guard dog studies have been promising, but more research is definitely needed," Green says. The researchers hope to learn which canine breeds will best protect livestock and at what age the dogs become effective. Because of the diverse livestock operations in the U.S. (both sheep and cattle producers are now using guard dogs), researchers also need to determine which breeds suit what situation and how many dogs are needed in different operations.

Some breeds do better under certain conditions than others. According to Green, the large, shaggy-haired Komondor does well in fenced pastures, whereas the Great Pyrenees favor working on open rangeland. "However, dogs of either breed won't reach maturity until 2 years of age or more," Green says. "And even a puppy of these two recognized guarding breeds doesn't come with a guarantee that 2 years down the road it will be an effective guardian."

"Because of this variability, we see the dogs as one of many tools that can reduce predator attacks. A variety of methods used together

will probably be necessary to sufficiently cut livestock losses."

Serious losses have spurred producers to use new technologies and home-grown remedies to control predators. Trapping and electric fencing are common. Some ingenious ranchers have even put strobe lights and tape recordings of sirens among their sheep. The lights and sirens periodically go off, sending bewildered predators off to more tranquil surroundings, without seriously disturbing the placid sheep.

But while producers wait for foolproof control methods, livestock losses are adding up. One estimate, by the American Sheep Producers Council, indicates that more than 1 million sheep and many millions of dollars are lost each year to predators. According to the Council, losses can range anywhere from 2 to 20 percent of a producers flock every year. According to Kirby Cavett, of the Statistical Reporting Service's Wyoming office, a survey showed that producers in his state lost 195,000 sheep and lamb last year. Forty-seven percent of them were caused by predators.

Federal research on predator control has been stepped up in recent years, particularly since compound 1080, an effective but controversial poison, was banned in 1972. However, many producers contend that heavy losses to predators have continued, and that the poison is again needed. The National Woolgrowers Association and the National Cattlemen's Association have asked the Environmental Protection Agency to reconsider the ban on compound 1080.

Specifically, the producer associations petitioned the EPA to permit the use of a new device — a collar equipped with pouches containing compound 1080 — worn by lambs and calves. The collar would have no effect on the animal wearing it, but an attacker going for the sheep's throat would get a mouthful of poison. Tests on the collars are still underway at the Denver Wildlife Research Service

(part of the U.S. Fish and Wildlife Service).

"Predation is considered a serious economic issue for sheep and cattle ranchers," EPA administrator Anne M. Gorsuch says. "They have informed the agency that their losses for sheep, lambs, and calves killed by coyotes and other predators in 1979 alone totaled well in excess of \$100 million."

Gorsuch has asked for preliminary hearings that will probably examine a variety of uses of compound 1080. The outcome of these hearings (held in late July) may result in reopening the compound 1080 debate. Meanwhile, some environmentalists say that resuming use of chemicals to combat coyotes could threaten other animals and some endangered species as well.

They argue that deaths of "innocent" animals were common before the 1972 ban, when compound 1080 was commonly hidden in the carcass of dead horses left in areas surrounding herds and flocks. Many environmentalists

claim that no matter how effective the poison, killing of nonpredatory animals is too high a price to pay. Guard dogs may offer one alternative. But how much do they cost?

Buying a guard dog is not cheap. Although prices vary among breeds, Komondor puppies may cost from \$300 to \$750 and up depending on age, bloodline, and breeder. Older, proven dogs — particularly dogs that have had experience with livestock — may cost more. Green figures an average price is around \$500.

Komondor dogs usually live from 10 to 14 years and can effectively guard livestock for 6 to 10 years.

There are at least two variable costs in raising a guard dog, according to Green. The first is the labor required to train the dog. Several owners of successful guardians reported they used no training whatsoever, but relied on the dogs' instincts. But most owners do teach their dog basic obedience commands.

The second variable cost is the

number of sheep that may be injured or killed while the guard dog learns its trade. It's not uncommon for pups to become overly playful with sheep, and some serious injuries can result.

"Some dogs pass through this phase quickly, and some never display this behavior at all," says Green. But, remember, the dog is almost always going to be bigger and stronger than the sheep.

Despite the costs — and the risks — a dog may appear to be a pretty sound investment, Green says. For example, take a hypothetical range sheep operation of 1,000 ewes with an average lamb crop of 1,250. If the predation rate was around 4 percent, 50 lambs would be lost to predators.

However, if the producer had a guard dog that was even 50-percent effective (saving 25 lambs), the producer could earn an additional \$1,500 if 100-pound market lambs were selling for \$60 per cwt. If the dog was 80-percent effective, saving 40 lambs, the producer would be \$2,400 richer. As Green points out, the higher the predation rate, the greater the savings.

## New reed canarygrass variety has increased popularity

ST. PAUL, Minn. — Reed canarygrass may be moving up on the forage popularity charts, says Gordon C. Marten, Science and Education agronomist here.

In 2 years of pasture tests lambs grazing on MN-76, a new strain of reed canarygrass, averaged gains of 0.26 pounds per day. Lambs on Vantage and Rise, two older varieties, gained 0.18 and 0.15 pound per day, respectively.

"Reed canarygrass has never been widely accepted by farmers," Marten says. "It has long been criticized for its slow palatability rating, and sometimes for its low weight gain potential with livestock and its apparent induction of diarrhea in sheep."

Comparing diarrhea problems as well as weight gains, Marten noted incidence of diarrhea was at least four times as great from

lambs grazing Rise as for those on Vantage of MN-76.

A basic program with reed canarygrass has been its high alkaloid content. Alkaloids are complex compounds that serve no known function in plants, Marten says. Three alkaloids commonly found in reed canarygrass are gramine, tryptamine, and carboline. The latter two alkaloids seem to readily cause diarrhea and poor animal performance, while gramine seeds somewhat more tolerable to livestock.

"Of the three reed canarygrasses tested, Rise is the only one containing tryptamines and carbolines," Marten says. "Average total dry weight for the 2 years showed that Rise contained 3,000 parts per million of alkaloids, Vantage 2,650 ppm, and MN-76 1,050 ppm. Vantage and MN-76 contained only gramine."

The researchers measured alkaloid concentrations of the grasses several times during the grazing seasons. They also measured nutritive value, crude protein, cell wall constituents, and mineral concentrations.

Forage quality was about the same for all three grasses except that MN-76 contained 5 to 8 percent less cell wall and as much as 9 percent more crude protein than

did the two commercial varieties. MN-76 was also higher in calcium than was Rise and Vantage. Grass hays are often deficient in calcium, so the increased calcium in MN-76 should be considered a plus factor, Marten says.

Lambs grazed the plots for 56 days the first year and 61 days the second year. Three pastures were seeded to each of three replications of the grasses tested, 0.67 acres each. After one hay crop was removed each year, 5 to 10 lambs were maintained on each pasture, depending on the carrying capacity (grazing pressure was controlled).

Reed canarygrass is a high-yielding and very adaptable pasture, hay, and silage crop. It grows in a great variety of soils and under both wet and dry conditions, Marten says. Total acreage planted to reed canarygrass should increase substantially with release of palatable, low alkaloid varieties.

"Successful breeding of low alkaloid varieties of reed canarygrass very likely will mean increased costs to the farmer," Marten says. He thinks such varieties will be available within a few years.



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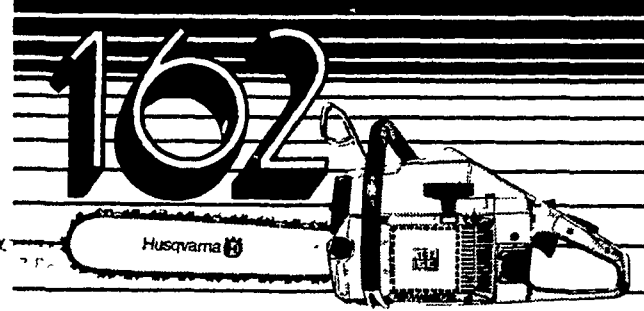
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