Guarding dogs are useful tools for reducing livestock losses to predators. Success depends on the inborn abilities of the dog and on proper training. This publication provides suggestions for bringing out the best performance in your livestock-guarding dog.

We’ll review the basics of guarding dog behavior and methods for starting a pup with sheep. We’ll discuss problems that you might encounter during the training process, as well as possible solutions.

Basic behavior patterns are the same for any of the Old World breeds, such as Anatolian Shepherd, Castro Laboreiro, Great Pyrenees, Komondor, Kuvasz, Maremma, Polish Tatra, Shar Planinetz, and Tibetan Mastiff. Our suggestions will work for any of these breeds. Furthermore, over the past 200 years, the Navajos have used the same methods to train dogs for guardian duty in New Mexico and Arizona.

Training a guarding dog uses techniques that are much different from those used in training a dog for obedience, hunting, or herding.

Training a livestock-guarding dog is primarily a matter of raising the dog with sheep to establish a social bond between sheep and dog (Figure 1). It’s a process that depends on supervision to prevent bad habits from developing and on establishing limits of acceptable behavior that are compatible with your operation.

Successful training produces an adult that’s trustworthy with sheep, attentive to sheep, and protective of sheep. These factors build on one another: protective behavior is mainly the result of trustworthy and attentive behavior.

Training may include specific goals that blend with your operation. Perhaps your dog must not jump fences, must adjust to rotational grazing, or must avoid antipredator devices. Deciding where you want the dog to work and which sheep you want the dog to protect are other factors in developing a successful training program.

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Basic guarding
dog behavior
Livestock-guarding dogs have traits that distinguish them from other breeds. They tend to retain puppylike characteristics throughout their adult lives—licking the muzzle of an adult, food begging, play wrestling, following parents or littermates, staying near a home or den site, barking when something new or strange approaches, and absence of predatory behavior.

The frequency of display of these behaviors varies among dogs, but it can be encouraged and reinforced in a dog through learning and positive experience. Your dog will direct many of these behaviors toward the sheep as if they were littermates or parents.

Livestock-guarding dogs also tend to follow a routine. Establishing an acceptable routine for a growing pup will help to set the pattern of adult behavior. A well-established pattern or routine often is difficult to change.

For example, a pup that never learns to jump a fence may never become a fence-jumper as an adult. However, if fence jumping becomes an established routine, it’s difficult to correct.

Trustworthy
The absence of predatory behavior is the basis of trustworthiness. Livestock-guarding dogs are selected to display investigatory and submissive behaviors that do not threaten sheep or other livestock.

Approaching sheep with ears back and squinted eyes, avoiding direct eye contact, and lying on the back are called submissive behaviors (Figure 2). Sniffing around the head or anal areas is called investigatory behavior. Both are desirable behaviors, signs that your dog has the right instincts and is working properly.

Figure 2a.—These three different submissive poses of an adult Maremma allow sheep to investigate, and each one fosters dog–sheep bonding. Here, eyes are squinted and ears are back; forepaw and rear leg are raised. The dog is prepared to roll over on its back as in Figure 4a.

Figure 2b.—Eyes are squinted, and ears are back in this nose-to-nose sniffing.

Figure 2c.—Again with squinted eyes and ears back, the dog avoids direct eye contact with sheep.
Attentive

The attraction of a guarding dog to a homesite and to surrogate littermates is the basis of attentiveness. Flock guardians are selected for their ability to follow other animals. Following a moving flock and sleeping and loafing among the sheep are signs of attentiveness to sheep.

A dog that retreats to the flock at the approach of a stranger is showing another good sign of a sheep-attentive dog. Researchers have shown a direct correlation between attentiveness to livestock and a reduction in predation. Therefore, success depends on training your pup to follow sheep.

Protective

The basis of protectiveness is your dog’s ability to react to deviations from the routine. Consequently, flock guardians are selected for their ability to bark at new or strange activities.

Typically, a young pup will respond to a new or strange situation by rushing out and barking with tail raised over its back or it will retreat to the sheep or homesite, if challenged, with tail between its legs. This is called approach-withdrawal behavior (Figure 3).

A predator—let’s say a coyote—usually avoids the threatening approach-withdrawal behavior of a guarding dog. Attacking a predator generally is unnecessary, and it rarely occurs.

Interactions with potential predators often involve complex behaviors that are difficult to interpret. Approach-withdrawal behavior may quickly shift to an aggressive display of dominance or a hasty retreat to the sheep. It might be coupled with defense of food or maternal-like defense of a young lamb.

The distance of the approach toward strange activity increases as the dog matures. The distance a dog travels varies with individuals but rarely extends beyond the boundaries of the property. Because protective behavior develops as a result of good trustworthy and attentive behaviors, it doesn’t require specific training.

Figure 3.—This is a display of approach-withdrawal behavior. There’s real uncertainty here: The dog’s hackles and tail are raised in a posture of dominance or aggression, but his ears are back and he avoids eye contact with the intruder—postures of submission. The dog circles between sheep and intruder. Will this display become aggressive? The chance that it might is enough to ward off most predators. Note how calmly the sheep are feeding in the background.

Raising your pup

Social bonds

During the first year, training should emphasize socializing your dog with sheep to form social bonds. Social contacts made shortly after weaning are believed to be important for correct social contacts as adults.

Young pups confined with sheep are more likely as adults to prefer sheep to people or other dogs. Similarly, lambs that are raised with a dog will show an attachment as adults to the dog with which they were raised. An important point is that the sheep–dog bond involves training both sheep and dog.

Many producers find lambing season to be convenient for starting a pup. Pups can be started inside a barn or shed. Allow the pup to mingle with lambs in grouping pens.

Timing the arrival of a pup with lambing can be difficult. Therefore, any of the strategies below can be used to start a pup any time of the year.

Rearing your pup with sheep

From the start, it’s very important to keep your dog with sheep and to avoid contact with your house, with people, and with other dogs—including littermates.

Pen your newly weaned pup with six or more sheep for 8 to 16 weeks (until it’s 5 months old) near water, bedding ground, or other points where the sheep gather (Figure 4). Possible pen locations are a lambing barn, lamb creep, night corral, or pasture.

One Texas rancher started a new pup in a welded-wire pen under a shade tree in a pasture. He kept six sheep in the pen at all times, rotating sheep several times a week to give all flock members an opportunity to meet the dog.

He kept food, water, and shelter for the dog and sheep in the pen. He placed a salt lick outside the pen to draw other flock members near the
dog. He let the pup out to exercise several times a week.

Hampshire College used a variation of the Texas rancher’s system. Pups were placed individually in pens containing a calf hutch with a lamb or a ewe. Heavy-wire cattle panels formed the sides of the pen. Wire panels were mounted on insulators and connected to electric fencing.

Another variation used by ranchers in Oregon is training pens made out of fencing wire. Training pens can be made using a combination of woven, barbed, smooth, or poly wire. Any metal fencing material can be mounted on insulators and connected to an electric charger.

Even if your pastures are not surrounded by electric fences, teaching your pup that fences are “hot” decreases the likelihood of its squeezing through or jumping over (wandering).

At 5 months—when the adult teeth erupt—open the gate of the training pen. Your pup should follow the sheep out to the main flock. Continue to pen several sheep and the pup at night for another month or two. A young dog also can be penned if you’re away for prolonged periods.

Leave the gate to the training pen open when the pup is out with the sheep. This will give the pup access to its homesite. In addition, you can use the pen as a feeding station.

For an older dog, a doghouse makes a good homesite and feeding station. It can double as a salt lick for the sheep if you add a tray on the back of the house. The doghouse then becomes a socializing point for both dog and sheep. You easily can move this homesite from one pasture to the next if you build it on skids, go-cart wheels, or a trailer frame.

These examples work well for ranchers who want to keep their dog in distant pastures, away from the house, and away from constant shepherding. Remember the concept: If you want your dog to

Figure 4a.—At 16 weeks of age, this Anatolian pup is in a well-fenced dry lot with ewes. The pup’s submissive posture allows sheep to investigate.

Figure 4b.—The pup’s sitting posture is another aspect of submissive behavior, this time with a touch of curiosity—what are those sheep eating?
become attentive to sheep, you must
raise it with them.

Use your own judgment about
when to leave your dog unpenned
without supervision. Normally, you
can do so when the dog is between
6 and 8 months of age. A good sign
that you can leave your dog alone is
that it stays with the sheep rather
than following you as you leave the
pasture.

It may be a mistake to leave a 4- or
5-month-old pup alone in a distant
pasture, even if the pup is trustworthy
and attentive (Figure 5). Such a
young pup doesn’t have the size and
strength to defend itself from

It’s not a good idea to raise the
pup with a flock of market lambs—
and then expect your dog to be
attentive to older spooky ewes when
you sell the lambs. In one early trial,
a pup was trustworthy and attentive
toward the market lambs with which
it was raised. When the pup was
6 months old, the rancher sold the
market lambs and placed the dog
with the ewe flock. The ewes fled,
which in turn triggered a play chase
from the dog.

**Spooky sheep**

Confinement of a pup with sheep
in a small area promotes the pup’s
interaction with spooky sheep. You
might corral the pup with the flock
at night or follow the example of the
Texas rancher.

An alternative is to raise the
sheep with replacement lambs that
you plan to incorporate into the
main flock. Once the dog has made
a bond with one group of sheep,
other sheep tend to follow.

**Herding dogs**

Keep the duties of your herding
or pet dogs separate from those of
your guarding dogs. A guarding dog
that plays with other dogs reinforces
the dog–dog bond rather than the
dog–sheep bond.

However, *introduce* your herding
dog to your guarding dog so the
guardian doesn’t act aggressively
toward the herder. Sometimes, a
guarding dog will act aggressively
toward your neighbor’s herding dog,
even though it’s friendly toward
your herding dog.

Aggression of a guarding dog
toward either herding dogs or
intruding dogs likely will depend on
differences in age, sex, familiarity,
and individual temperament.
Antagonistic displays tend to occur
most often as a result of competition
between dogs of the same sex and
age.

**Patting**

Pat your dog only with deliberate
planning because patting reinforces
the dog–human bond. The more you
pat the dog, the more it will seek
human attention. Some dog–human
bonding is needed because family
members and hired help need to
interact occasionally with the dog—
when, for example, you need to take
health exams or rotate pastures.

It’s appropriate to pat the dog at
feeding time or during checks of
sheep, but do it in the middle of the
pasture or within the pen. Patting
your dog through the fence, over a

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Figure 5.—At 6 months of age, these Shar Planinetz are being taught to follow the flock in a range operation in the former Yugoslavia.
gate, or at the house reinforces frequent visits to these locations.

Don’t put your dog or feed it at a steady location unless you want it to be there. Obedience training isn’t appropriate—it tends to increase social bonding to people.

**Summary**

Each dog, handler, and ranch share a unique set of conditions. Needs and expectations in predator control are different for a small, part-time producer close to town, a midsize commercial producer, and a large range operator.

For example, the small-flock owner may be close to town or close to neighbors. Neighbors and frequent visitors can be a distraction for the dog. On the small farmstead, extra petting can reinforce the bond to your property and familiarize the dog to people.

A dog that displays attentiveness to people but moves freely about the farm can provide a degree of protection even if it’s not with the sheep all the time.

On the other hand, a commercial producer with several hundred sheep may require a dog that is shy of people. A dog that prefers sheep to people will work better in unsupervised settings. Shyness to people can be fostered by minimizing human attention, beginning at 5 weeks of age.

Range operators face other problems. Training pens are impractical at a range camp that’s moved frequently. Range operators would do better to raise the pup with replacement ewe lambs or dry ewes at the home ranch the first year. An alternative is to purchase an 8-month or older dog that was started at another ranch. An older dog could be taken directly to the range camp.

**Problems—and some solutions**

The first step in diagnosing a behavioral problem is to relate it to one of the three basic behavioral attributes: trustworthiness, attentiveness, or protectiveness. Experience shows that most problems relate to one of these three categories, so we present them here in that order. Then, we discuss two special situations, rotational grazing and antipredator devices.

**Not trustworthy**

Occasionally, a dog will injure or kill a sheep. Most behaviors resulting in injuries to livestock are correctable. They usually have one of these causes: play, injury to a sick or odd sheep, injury to a newborn lamb, or stalking.

**Play.** Pups, especially from 5 to 10 months old, may start playing with sheep the same way they play with littermates. They usually outgrow disruptive play behavior by 12 to 18 months.

Typically, a young dog will run around a sheep in a circle and stop quickly—front paws extended, rear end raised with tail wagging, and head lowered as in a bow. Ears may be cocked up and forward. If the sheep runs, a play chase often follows.

Sometimes, the dog grabs wool or nibbles on the sheep’s ears as it runs alongside. Experienced sheep generally don’t run from the play approach of a young dog. Sheep also don’t run if the dog is prevented from chasing.

Corrective behavior is mandatory when chasing occurs: the problem can become serious as the sheep develop fear, and the dog’s success reinforces further chasing. You might throw a stick in the dog’s direction to divert its attention or spank the dog and give it a firm “No!”

Your dog may tend to play with a specific group of sheep, such as lambs. In that case, place the pup with rams or older ewes until the undesirable behavior subsides. A different group of sheep can inhibit the play approaches of a young pup.

A dangle stick is a useful training tool for playful pups that are left unattended with the flock. This is a board, stick, or tire section (18 to 30 inches long) that dangles from a hook attached to the dog’s collar. Snap the stick to the collar with a swivel hook.

The stick should hang 3 or 4 inches above the ground when the dog stands upright. The device allows the dog to eat, drink, and display submissive and investigatory behaviors. But when the dog tries to run, the stick gets tangled about the legs. This provides immediate discipline and prevents a playful chase.

You can use this device on a playful pup for 3 to 4 weeks. Remove it in stages. First, remove the stick but leave the dangle chain; then, remove the chain when all playful behavior stops.

Another contribution to play behavior may be excess energy caused by improper feeding. A pup that’s fed excess calories can either store them as fat or burn them in play activity.

If a pup is playful and fat, reduce its energy intake (but not the quantity of food) by selecting a chow that’s low in fat and carbohydrates. Tests indicate that overactive dogs placed on a diet of cooked oats for 2 weeks show reduced play. A diet of cooked oats is high in fiber and creates a feeling of fullness without providing excess energy.

**Sick or odd sheep.** On rare occasions, a pup or older dog may injure or kill a sick, weak, or odd sheep. Sheep with severe cases of foot rot or those weakened by internal parasites or other medical problems may be attacked by otherwise trustworthy dogs.

There are documented cases of dogs chewing on dead scrotal sacs or tails that remain following castration or docking with rubber bands. Sheep whose heads are caught in woven wire fences or feeders have been injured also.

Trustworthy dogs that display unusual behavior toward sick or odd sheep normally don’t become generalized sheep-killers. Treat or
remove the sick or odd sheep—
don’t remove the dog from guardian

duty.

Newborn lambs. Several guarding

dogs made mistakes during their
first exposure to lambing. Typically,
the injurious behavior occurred to
the firstborn lambs of the season.

Supervision is required during
your dog’s first exposure to lambs.
Tie or pen the pup if necessary.
Discipline prevents a young dog
from making further mistakes.
(Those same dogs were trustworthy
with newborn lambs in later years.)
Eating afterbirths is normal, and it
won’t lead to injurious behavior to
sheep.

Stalking. An uncorrectable
problem is frequent stalking in a
crouch with lowered head, like a
Border Collie. This response to
sheep is an inborn trait of herding
dogs. Training can’t prevent the
display of such inborn characteris-
tics. Stalking behavior is virtually
nonexistent in the Old World
guarding dogs. If it does occur,
replace the dog.

Not attentive

The most common problem here
is a dog returning to areas of human
activity, around the house or the
barn. Wandering off the property
generally is associated with investig-
atory activity at a nearby house or
ranch or with sexual behavior.

Very few dogs are attentive
100 percent of the time, and most of
them sleep during the day. Summer
heat may reduce attention toward
sheep.

Human activity. If your dog’s
bond is greater to your house or
barn than to the sheep, look for one
or more of these causes:
• You’ve patted or played with the
dog
• The dog is attracted to house dogs
• Sheep don’t accept the dog

You can avoid these problems by
strictly following the training routine
described in “Rearing your pup,”
page 3.

Some curiosity toward areas of
activity such as corrals or barnyards
can be expected—alertness is the
basis of protective ness. A dog that
isn’t primarily responsive to the
activity of sheep may be less
effective.

However, dogs attentive to people
can be effective in these situations:
where a shepherd is constantly
present, within an electric fence, or
where pastures surround house and
barn.

Wandering may be associated
with an attraction to human activity
or with sexual activity of both males
and females. Neutering your dog
during 6 and 12 months of age can
prevent unwanted wandering
associated with sexual activity in
both sexes. Neutering doesn’t seem
to affect other qualities of guarding
dogs.

Summer heat. Large dogs,
especially if they haven’t shed their
winter coats, may have difficulty
dissipating excess heat during summer
months. Your dog may retreat
beneath a barn or dig a hole in cool
dirt—and show no interest in sheep.
Brushing out underfur and
shearing long-coated dogs may help.
Provide plenty of cool water. Seek
veterinary assistance if the dog’s
body temperature rises above 102°F.

Not protective

Consistency in your training for
trustworthiness and attentiveness
will contribute to protective ness.
Most protective ness problems are
associated with poor attentiveness.
Your dog’s protective ness also
depends on its aggressiveness and
on factors such as density of preda-
tors and flocking behavior of sheep.

Aggression toward predators
depends on age and sex, and it
varies among individual dogs.
Displays of dominance associated
with aggression may not appear
until your dog reaches 18 months.

Don’t punish a young dog for not
acting aggressively toward a pack of
older strays. An attentive dog that’s
only moderately aggressive still can
be an effective guarding dog by
alerting a shepherd with barks or by
diverting the attention of the preda-
tor to itself, and thus away from the
sheep.

Scattered sheep. A single dog
may have difficulty protecting large
numbers of widely scattered sheep,
especially where predator densities
are high. In this case, you might
either keep sheep flocked to maxi-
mize the dog’s effectiveness, or add
a second or third dog for reinforce-
ment. Adjusting the number of dogs
in a sheep operation must be done
on a case-by-case basis.

Other factors

Rotational grazing. Moves to
new quarters may upset your dog’s
routine. You should anticipate this
and incorporate your moves into the
training. The transition is easier if
you move a doghouse or pen
(homesite and feeding station) with
the dog.

Walking your dog around the
perimeter of a new pasture is a good
method for introducing new sur-
roundings. Sometimes, you may
have to tie your dog in a new pasture
for 1 to 3 days before it adjusts to
the new location.

Antipredator devices. Don’t use
ejector devices or poison baits in
pastures when a guarding dog is
present. If ejector devices must be
used in the vicinity of your pasture,
you’ll need to teach your dog to
avoid them.

One method is to bait the device
with scent and fill the capsule with
red pepper and hot sauce. Your dog
will associate the scent with the
unpalatable taste. Remember to
retrain your dog each time you use a
new scent.

Raising a second or
replacement dog

Sheep producers find that raising
a second or replacement dog is
easier than raising their first dog.
Sheep producer and sheep have
more experience the second time
around.
The sheep producer has the added convenience of using an older dog as a “teaching” dog. A pup that has an older dog to follow may be left unsupervised at an earlier age than a pup that’s raised alone with sheep.

Through 16 weeks of age, it’s a good idea to keep your replacement pup near the watchful eye of a shepherd. Pen the pup with sheep in a barn, corral, or pasture as we described in “Rearing your pup with sheep,” page 3.

By 16 weeks, you can let the pup follow the older dog and benefit from the older dog’s supervision. Producers find that replacement pups direct playful energy toward older dogs rather than sheep and that experienced sheep are less skittish around a new dog when a familiar one also is present.

You’ll want to consider starting a replacement when your first dog reaches 2 to 4 years of age, because it takes 1½ to 2 years for a guarding dog to mature.

Fatal accidents are high in young dogs 6 months to 2 years old and low in the middle years (2 to 6). If you have two dogs on your ranch, separated in age by 2 to 4 years, your odds are the best that you’ll always have a guardian with your flock.

For further reading


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There are many sites about livestock-guarding dogs on the Web. Search “livestock guarding dog” on your search engine, or start with [http://www.lgd.org](http://www.lgd.org) (the Web site of the Livestock Guarding Dog Association).

More assistance

There’s no way to anticipate the full range of good and bad behaviors your dog may exhibit. Don’t hesitate to call on your county Extension agent if you have questions about the behavior or management of your dog. If you need further assistance, call your state Animal Damage Control office listed under U.S. Department of Agriculture, Animal and Plant Health Inspection Service, or call the Western Regional Office at 303-969-6560.

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