

LIVESTOCK GUARDIANS & PREDATORS SPECIAL

Texas A&M launches multi-year LGD research

By Bill J. Costanzo

An effective Livestock Guardian Dog (LGD) is the result of properly rearing a puppy with certain inherent genetic traits. Each farm and ranch should attempt to find the best genetic fit for its operation. Keep in mind that LGD behaviors are greatly influenced by how they are treated, bonded and trained during the first year of their life.

Based on preliminary data from LGDs used by Texas A&M AgriLife in San Angelo, Texas, dogs that are bonded just after weaning at a producer's ranch are more likely to remain with stock than dogs bonded by a breeder and purchased at an older age.

Properly selecting an LGD puppy is a crucial first step in raising an effective and dependable LGD and sets the stage for a successful bonding process at your farm/ranch. To select an LGD pup best suited for your operation, you should consider purchasing a puppy from a breeder that has raised the puppy from birth with the same type of livestock that you own. For instance, if you have Suffolk sheep, it would be wise to purchase an LGD from a dog breeder that raises his pups with Suffolk sheep.

Anecdotal evidence suggests that LGDs raised with a specific species and breed of livestock will develop a bond to those specific animals at an early age. Purchasing your LGD puppy from a breeder with your specific species and breed of livestock will significantly increase your chances that the pup will bond successfully with your stock.

The best age to begin the bonding process at your location is with a puppy that has been weaned and is approximately 8 weeks old. It has been shown that puppies over 16 weeks of age do not form permanent bonds to livestock, which may lead to roaming.

Bonding

During the bonding process, it's important to regularly supervise your new puppy from a distance and watch for evidence of prey drive, submissive behavior to livestock



Hulk and Thor are part of the LGD Bonding & Early Training research under way at Texas A&M AgriLife Research—San Angelo, Texas.

and a calm temperament. Displays of these behaviors should be recorded and closely monitored during the bonding period.

While some misbehaviors, like chasing stock, can be corrected if dealt with sternly and immediately, other traits, like dominant behavior toward livestock, are more difficult to change in your puppy. If you often observe dominant or aggressive behaviors in your young dog, you may need to choose a new puppy to bond to your livestock.

Puppies tend to be easily excited when humans are with them, but when observed from a distance, your new pup should slowly approach livestock and remain calm unless they are alerted to a predator or unknown animal at their location.

Your puppy should not exhibit evidence of prey drive. Prey drive is the instinctive inclination of a carnivore to find, pursue and

capture prey. In European LGDs, this instinctive drive has been bred against for thousands of years. LGDs have been bred to guard and protect livestock from predators like wolves and coyotes.

An LGD pup that stalks, chases or bites livestock should be corrected immediately; however, these traits may or may not be exhibited in younger pups. Older pups and yearling dogs should not display these behaviors. If they do, you may need to find a replacement LGD for your program.

Submissive behavior toward your livestock is an important trait to distinguish in an LGD puppy. Quietly watch your new pup interact with livestock. The puppy may be curious but should be somewhat cautious the first few days. Avoiding eye contact with livestock is an excellent indicator of submissive behavior.

Some LGDs possess this instinct naturally, while others need to be trained by livestock and/or owners. Livestock guardian dogs need to tolerate pokes and prods by livestock. If your puppy barks at, jumps on or bites stock, even if stepped on accidentally, it needs to be corrected.

Pups with this behavior can inadvertently injure livestock or cause them to fear guardian dogs. Older pups should be submissive and calm around stock. You should always see behaviors such as walking up to stock rather than running, dropping to the ground or rolling over, lowering the head and tail as they approach stock, licking at the mouths of stock, and choosing to sleep next to stock. These actions reveal that your puppy is bonding well and demonstrating submissive behavior to its charges.

A calm temperament is important in your new LGD puppy. Look for a pup that is interested in you but not overly aggressive, fearful, shy or clingy. The pup that runs up to you first or insists on being “in your face” is not the best choice for a livestock guardian dog. Full-time LGDs used on large ranch operations should be more independent-minded problem solvers that are not dependent on human companionship. Pups that walk off by themselves after meeting you are often good choices.

Look for pups that are calm and thoughtful yet show vigilance toward new things or loud noises. Pups should be alert and exhibit guardian behaviors such as barking at unfamiliar objects, noises and scents. Avoid pups that chase balls, growl, bite or struggle when you handle them. Correct human socialization before 14 weeks of age will help pups form a positive relationship with humans.

Bonding pens

Based on a multi-year LGD puppy bonding project currently being conducted at Texas A&M AgriLife Center – San Angelo, data suggests that bonding puppies in pens containing hot wire increases the likelihood that these puppies will stay in the pastures to which they are later released.

Weaned puppies, approximately 8 weeks old, were initially placed with sheep and goats into 60' x 60' pens containing hot wire at the base for 1 month. The dogs and livestock were then placed into 1-acre pens, again with hot wire at the base, for another 2-3 months.

When the pups were 5-6 months of age, they were released into larger pastures with the livestock to which they had bonded. Pups were then tracked in these pastures via GPS

Clockwise from right, guardian puppies are started in a bonding pen; an LGD feeding station; Thor has learned not to fight a tether.



trackers until 7-8 months of age.

The first round of puppies bonded in hot wire vs non hot wire pens were much less likely to leave the final trial pasture than the puppies bonded without hot wire. The puppies bonded in pens with hot wire were placed with sheep in a section-size pasture at a cooperating producers ranch. After being placed in the pasture for over 6 months, the puppies had not left it for any reason. All puppies in this project will be tracked until 18 months of age via GPS trackers.

Researchers have also found that bonding away from the headquarters may affect the dogs roaming patterns. One-acre bonding pens were placed in separate, 100-acre pastures. These areas were distanced from each other and from center headquarters so that it was difficult for the dogs to hear vehicles, humans or the puppies in other pens. Dogs bonded away from the research center headquarters seem to be less likely to roam and look for human contact. A second phase of the project has been recently started to track this behavior as well.

Pen design

Proper pen design is important when bonding your new LGD puppy. Pens should contain strong fencing from which the puppy cannot escape or dig out. Welded wire mesh makes an excellent fence to contain young puppies. Pen sizes should be large enough to

comfortably accommodate the puppy and livestock, plus items such as stock feeders, dog feeding station, shelter, puppy escape area and water troughs.

It's best to start your puppy out with 4-6 head of young animals in a small 60' x 60' pen. As your puppy matures, you should increase the size of the bonding pen and increase the amount and ages of its livestock. It's very important to change out livestock on a regular basis so that the dog bonds to a species and not to specific animals. Dogs that bond to specific animals can suffer unneeded stress if those animals are sold or moved to another location. This can cause your LGD to start roaming as it searches for the lost members of its herd.

It's crucial to provide your puppy a feeding station, shelter and easy access to water in the bonding pen. Your puppy should also have an area to get away from livestock, should it need to. It's important that feed and water are not both located in this secure area. This ensures that the puppy will need to exit the safe area to interact with stock at some point each day.

If stock are being too rough with your puppy, replace them immediately. Likewise, if your puppy is being too rough with the young stock, add in older animals to teach your puppy to be submissive to livestock.

After about a month your puppy should be bonded well to stock and can be moved

into a larger pen. Pen size should be 1-2 acres for the next 1-2 months. It's important to closely watch your puppy during this time as he will have more room to explore and may start chasing stock in this larger area.

Often during this period, stock will move away from the puppy without the dog noticing. This often causes the puppy to run towards the stock. This behavior can then turn into a chasing game for the puppy. If you notice this behavior, you should correct it immediately. If you are not able to regularly supervise your dog during this time, you may use a dangle stick or drag to correct the puppy's behavior when you are not around.

As the puppy approaches 5-6 months of age, it can be moved into a larger pasture of 10-25 acres. Again, more stock with a variety of ages should be added to the pasture for the puppy to guard. Puppies should continue to be regularly monitored for behavior issues until 18 months of age.

At approximately 8-9 months of age, your puppy should be developed enough to guard livestock in larger pastures up to 50-100 acres on its own or larger pastures with other mature LGDs. It is often helpful to have an older LGD paired with a younger dog to provide further training and assistance with predators. A young pup is no match for larger predators and should never be left on its own to defend the flock.

Socialization

Proper human socialization of your LGD puppy is vital during the bonding process, and it becomes increasingly important as your dog matures. Spending 5-10 minutes three to five times a week with your new puppy should be enough to properly socialize it to humans.

Socializing your puppy should include slowly rubbing your hands all over the dog, especially its feet. You should place your fingers inside its mouth to check tooth development and check its ears for ticks and infections. Regular brushing and even slowly turning your puppy over on its back will help calm and accustom it to human contact.

You should name your puppy and teach it basic commands such as "Come," "Stay" and "No." Your puppy should know its name and come when called. Introduce treats to your puppy whenever you come in contact with it, so it learns to trust you.

In addition to rewarding good behavior, this will make administering medication easier, should you ever need to do so. Treats should always be given when your puppy is with livestock in the field. Always make sure that all positive reinforcement is done in an area with livestock. Remember: what you reward, you promote with your LGD!

Training

In addition to training your LGD to obey basic commands, it's also essential to leash train, tether train and teach your pup to calmly ride in a vehicle/trailer. Leash training your LGD will be necessary should you ever need to take it to your local veterinarian.

Start leash training with your puppy for just 2-3 minutes at a time using an anti-pull collar. Slowly increase the time each week until it heels without pulling or straying away from you. Continue this regularly throughout the bonding phase and reinforce whenever possible.

Leash trained dogs are also easier to work with and transport to new locations. Leash training aids in tether training your LGD, which is another important training aid.

Tether training your LGD is crucial in case they are ever caught in a snare. Start tether training your puppy using a normal collar for

Bill Costanzo was hired on January 15, 2019, by the Texas A&M AgriLife Research Center in San Angelo, Texas, as a Livestock Guardian Dog Research Specialist II. Bill had used LGDs on his own farm flock of sheep in Northern California for more than 8 years. He was an Agriculture Teacher & FFA Advisor for more than 18 years in California and grew up in the small farming town of Escalon, Calif., which is in the states' Central Valley. He has a Bachelor of Science Degree in Agriculture Education from California State University-Fresno. Bill's position at the AgriLife Center is a joint project between the Texas Sheep & Goat Predator Management Board and Texas A&M University AgriLife. Bill is responsible for the care and management of more than 20 LGDs at the AgriLife Center in San Angelo and its three research ranches. He also is responsible for putting on LGD field days, producer visits and outreach, county workshop presentations and keeping up-to-date records for the LGD program. Bill also assists in research projects related to LGDs using GPS trackers and game cameras. He is currently working on a multiyear puppy bonding project. The project started in August of 2019 and will continue for several years. They will be tracking the dogs' movement, along with stock movement and predator control, on a research ranches across Texas. They also are working with cooperating producers that will be using some of the dogs on their ranches. ■



1-2 weeks, for 2-3 minutes, three times a week. Then, change collars and use an anti-pull collar that tightens if the puppy pulls on the tether.

As the puppy gets used to the tethering, gradually increase the time until your dog will calmly lay for 1-2 hours or longer. Tethering should be taught 2-3 times each week during the bonding phase and repeated whenever time allows.

The final critical training aid for your LGD during the bonding phase is riding in vehicles. You should start your puppy out inside your truck cab so that you can comfort it if it becomes scared or restrain it if it tries to jump out while the vehicle is moving.

Puppies can easily fall out of a vehicle and break a leg, shoulder or hip if not supervised closely. This training should be done once or twice weekly for 5-10 minutes at a time.

As the puppy matures, you can move it to the back of the truck and/or into a trailer. Teaching your LGD to ride in a vehicle will prove valuable when moving stock to new locations or taking your LGD to the veterinarian.

Most LGDs get very anxious when removed from their charges and teaching yours to calmly ride in your vehicle will make these events less stressful for your dog. Should you need to move your dog a long distance, you may want to take a few head of livestock along in the trailer so that it does not get overly anxious.

Lastly, any time you introduce something new to your LGD, it's important to acclimate your dog to the new situation. For instance, if you create a new feeding station design, make sure your dog knows how to enter it. You may need to physically show them the entrance and place them into the feeding station, so they understand how to get in and out.

You may need to repeat this several times until your dog learns the new system. LGDs are very smart, independent and courageous animals, but they are often hesitant to try new things. Keeping this in mind, it is always wise to carefully and patiently familiarize them with new objects and situations until they adjust and lose their fear of them.

We look forward to sharing our research with the ranching community over the next several years as the bonding project continues. Weekly progress of the puppies and project can be viewed on our Facebook and Instagram accounts @TAMUlivestockguarddog. ■