

Camelids - a Different Kind of Livestock

By Eric Hoffman

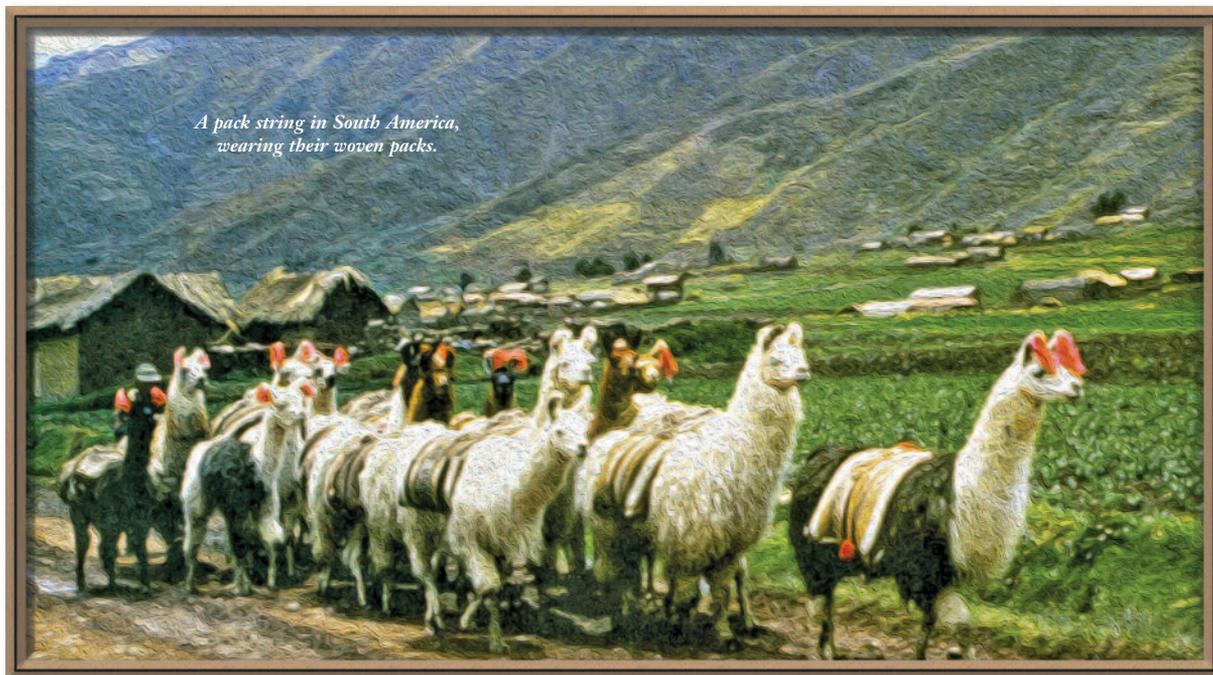


Photo by R. Ellis

Behavior speaks louder than words

In order to successfully manage domestic camelids, it is important to understand the types, and note the frequency of certain behaviors that have been passed down for centuries in their “hard wiring”. South American camelids interact through a wide range of body postures, vocalizations, and scenting. Understanding their communication is both entertaining and an extremely valuable herd management tool for designing farm lay-out, food distribution, and creating compatible groupings to diminish herd stress.

The Evolution of South American Camelid Behavior

After 6,000 years of domestication, alpaca and llama behavior has been modified by human management and breeding, but core herd communication is still rooted in their wild ancestors, guanacos (llamas) and vicunas (alpacas). One of the most notable differences between the wild parent species and domestic llamas and alpacas is how manageable and cooperative the domesticated species become once they establish patterns and routines. For example, Quechua children can herd 500 alpacas to their pastures and back with few if any surprises. Pack llamas are followed, not led, when they are carrying goods to another village. The llamas learn the route to a destination and remember it. They carry loads at a predictable pace until the journey is complete, and one or two people follow as many as 50 pack llamas using a sling shot to remind any stragglers they need to keep up with the lead animals. Try this with vicunas or guanacos and they’d disperse as fast as their legs can carry them.

A brief look at behavioral research and observations made during more than 40 visits to the Andes has only increased my appreciation for the broad repertoire of communication our

domestic camelids inherited. Literally, we are recipients of behavior that evolved over millions of years from long extinct species of camelids. DNA testing and archeological research has shown guanacos were modified by selective breeding practices that began more than 6,000 years ago to create the llama, and the vicuna was

modified to create the alpaca. The domestic forms became the underpinning of a series of great civilizations exemplified by the Incas. It is important to realize the behavior we see today evolved to sustain the wild species and the behavior has served them well.

Types of Communication

Most llama and alpaca communication falls into six categories: body posturing; ear, tail, head, and neck signals; vocalizations, scent, and smell; locomotion displays; and herd response. Usually communication of one kind occurs in concert with others. I’ll try to explain how understanding each of these forms may help you manage your herd.

Alert Stance & Alarm Call

The alert stance is identical in the four South American camelid species. The alarm call varies between species and individuals, (sometimes called “quacking” because the noise sounds vaguely like a duck). If you have watched alpacas or llamas stare at a cat or dog walking along their fence, you’ve seen the alert stance. The camelid stands with their body rigidly erect and rotates its ears forward in the direction it is staring. Often a herd numbering in the hundreds will strike this pose in unison. I’ve also seen two alpacas employing the alert stance while staring at a tiny lizard climbing a fence post.

Vicuña on alert (stance)



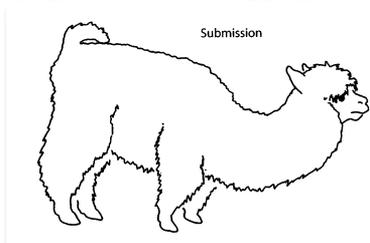
The alert stance may be a precursor to an alarm call, or rapid flight, if the consensus of the herd is that there is a real and present danger. Or the herd may elect to move forward in unison to further investigate or chase off an intruding animal, like a small dog or house cat. Camelids are fairly good at assessing an intruder's capabilities and level of intent. However, a herd may also go silent in the face of an imminent threat.

We raised camelids in the Santa Cruz Mountains without a loss to predation for over 40 years. Two years ago, with the killing of a much-loved stud, in a pen close to our house, everything changed. We have always run our herd behind an 8' tall perimeter fence, with double strands of barbed wire running along the ground at the fence line. Our gate areas have cement aprons. We knew dogs or coyotes could not dig in, and thought the fence, and the intermittent use of a radio and blinking lights would deter Mountain Lions. Wrong! Our surrounding mountain lion population is now frequently targeting livestock rather than wildlife. Fences are no barrier, lights and sounds have not been deterrents, so our herd is locked into predator proof shelters every night.

We have watched, and been told about, alarm-calling, and total silence in the face of a predator. The same group of animals that often sounds off if a deer or even a rabbit appears along a fence, may also form a tight group and go completely silent, while they are entirely focused on watching a threat, or a companion being killed. Perhaps camelids know when they need to alert the herd to a threat, and when to hide from it. Don't always expect an alarm call for emergencies!

Submissive Crouch

A common behavior in both wild and domestic camelids is the submissive crouch. It is the easiest of the full body postures to identify. It is utilized for several purposes. While slouching slightly, the animal lowers its head, curving the neck toward the ground, while flipping its tail onto its back. This body



posture, which is seen in nursing crias, adolescent animals, and adults, signals to a nearby dominant animal that its higher status is recognized and no challenge will be forthcoming.

The tail curved forward onto the back is perhaps the first behavioral sign seen in a newborn camelid attempting to nurse. Wobbling to its feet, it will usually flip its tail forward in the same manner as an older animal signaling submission. In a newborn, striking a submissive tail-forward slouching posture is an instinct, not a learned behavior demonstrated by an older animal who must first discern if a nearby animal is dominant and deserving of submissive signaling. The cria signaling submission by his tail's forward bend is advertising his low rank, which serves to protect it from interruption as it nurses. When a young male passes close to an adult male, he will often strike a submissive crouch, indicating his inferior rank. When two unfamiliar adults meet for the first time both may show submission.

The submissive stance can also be a ploy to draw two animals together. Territorial male guanacos have been seen striking a submissive crouch while approaching a female they hope to entice into their territory. Stud alpacas have also been seen employing the submissive crouch to a female being led into his pen to breed. But, as soon as the female is released (or before) the male will start orgling and mounting the female.

You may see young animals and low ranking females approach a crowded feeder in a submissive crouch. This group needs to be



Photo courtesy of Oak Hills Alpacas

monitored because in a competitive feeding situation, the low-ranking adults and adolescent animals are more prone to getting short-changed nutritionally. This subgroup can experience an entirely different diet than stronger animals, because they may only get the leftovers. If you're operating on dry lot where animals are entirely dependent on people for their food, the discovery of thin animals amongst robust ones needs a follow-up that may include deworming, making more forage available and/or more food drops so animals can spread out and not get hassled when trying to eat.

Young llamas and alpacas striking a submissive crouch and slouching up to people may be expressing the first signs of "berserk male syndrome" which is basically caused by a cria who has been overly familiarized with people. He thinks humans are his herd, and when he reaches adulthood he may treat them as he would a camelid rival which means screaming, ramming, mounting and biting to establish dominance and claim his territory. In females, over familiarization with humans may be expressed in "bratty" behavior - pushing, or spitting at people. This condition can be avoided by allowing crias to bond with their herd, with limited human interactions until they are weaned.

Beware of camelids who begin signaling people as if they were camelids

of each other with their ears pressed back, neck fully extended, head tilted upward and tail elevated. The standoff starts as a middle-grade aggression, often between animals of similar rank. The situation often escalates rapidly to spitting, pushing and possibly biting. Females often resort to this behavior near a food source or in defense of their cria. If two animals continually standoff and escalate to violent fighting, you may want to re-assign one of the animals to another group to avoid continual herd stress. After 40 years of raising these animals I've learned that constant standoffs between animals can blossom into involving more animals until many of the animals in a single paddock become quick to respond to slights from other animals. Fights and frequent flareups should not be the norm. For the health and safety of your herd, you need to figure out and address the reasons for frequent flareups.

Ear, Tail, and Head Signals

The position of the ear, tail, and head in concert with body posture is the chief form of visual communication in a herd. This body language is more subtle than dramatic territorial displays and submissive crouches. In all species of South American camelids changes in ear position by only a few degrees can signal alertness, contentment, or displeasure. A relaxed alpaca holds its ears up and slightly back. An aroused alpaca showing an alert stance rotates its ears forward, cupped towards whatever has piqued its curiosity. Displeasure is communicated by head and neck position.

The more the ears are laid back and the nose tilted upward, the greater the displeasure.

Commonly, when the ear messages and head tilting are ignored, the transgressor will be spit on and frequent flareups may result. Usually when an animal receiving warnings turns away, gives ground or signals submission, the tension subsides. "Ear talk" is prevalent around a feeding station where animals are jostling for access. If the two animals can't work through their differences, they often enter a "standoff."

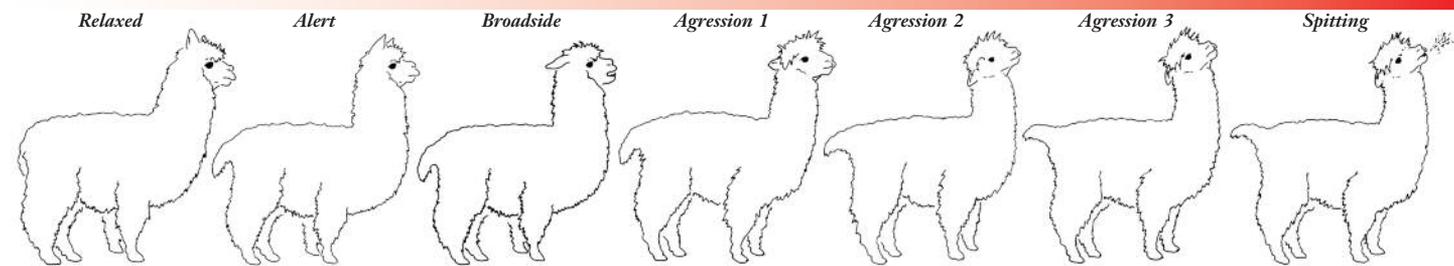
Standoff

The standoff is a common communication between two llamas or alpacas when no one will yield. Disagreements are often over food. Two animals stand rigidly within inches or a few feet



Broadside Displays

Posturing by male vicunas and guanacos is designed to advertise that territory is occupied over the distance of a mile or more. Part of this long-range package includes the understanding that aggression will greet an interloper. When a strange male approaches, the territorial male stands rigidly on high ground with his tail held high, ears pinned back, and nose tilted up. This is called a broadside display. The camelid usually stands broadside to the animal he is trying to intimidate. If the intruding male continues his approach into a territorial male's space, he will attack the intruder. If the intruder is a reluctant warrior, he'll veer off course to avoid a fight.



Guanaco in Broadside Display.

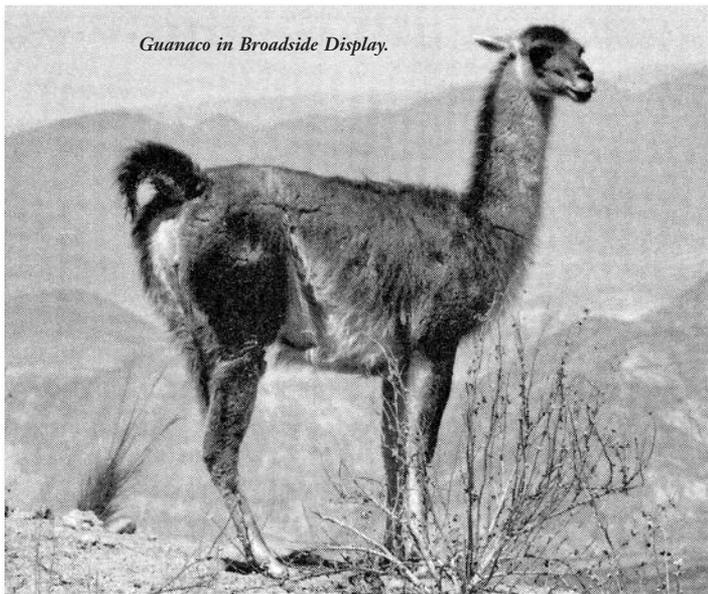


Photo by Eric Hoffman

In a domestic herd with various pens and animal groups, a broadside display may be harder to identify than the pure form just described. Depending on the reaction of the male being intimidated, the interaction between the two animals can escalate into pacing along a fence and possibly earsplitting vocalizations to express aggression.

Territoriality

For the most part wild vicunas and guanacos live in family groups and occupy specific territories that are controlled by a single male. This male, known as a territorial male, is aggressively vigilant and highly communicative. His activities are integrally linked to reproduction. He is on guard to fight any male who challenges him or attempts to sneak into his pastures to breed. The territorial male patrols constantly,

marking his territory with urine and feces. His reign will last only a few years, until he is dethroned by a stronger male, or killed by a predator.

Reproduction Behaviors

Females use the communal dung piles as well. In his daily routine the territorial male checks out the dung piles inhaling the scents left by the females to determine if they are bred. This behavior, sniffing and lifting his head with his top lip curled up, is called flehmen. When you have bred a female, and she rejects the male on a return visit, after being receptive, she has probably ovulated, or is pregnant. Learning to recognize this behavior and observing your male’s reaction to sniffing the female’s dung pile, can be as accurate as running progesterone tests in a lab to confirm a pregnancy.

Managing males

Housing adult males can be challenging if you don’t know and respect what triggers aggressive behavior. How and where you house males will determine how manageable they are. First, it’s worth remembering that llama and alpaca breeding males usually have a territorial male lurking in their DNA that will likely assert itself if he is called upon to do some breeding or is allowed to run with a herd of females.

Guanaco “bachelor” herds, mostly made up of young males and dethroned territorial males, give us insight into how to house males. Male guanacos in bachelor herds are compatible with one another as they travel over vast areas in the Andes. However, when a bachelor herd comes across a territorial male’s domain, males from the bachelor herd may begin to act more aggressive and challenge a territorial male violently to try to wrest his territory and his females from him.

From this behavior, camelid farmers have learned that housing studs in bachelor herds, out of sight of females, greatly reduces

Family groups of alpacas.

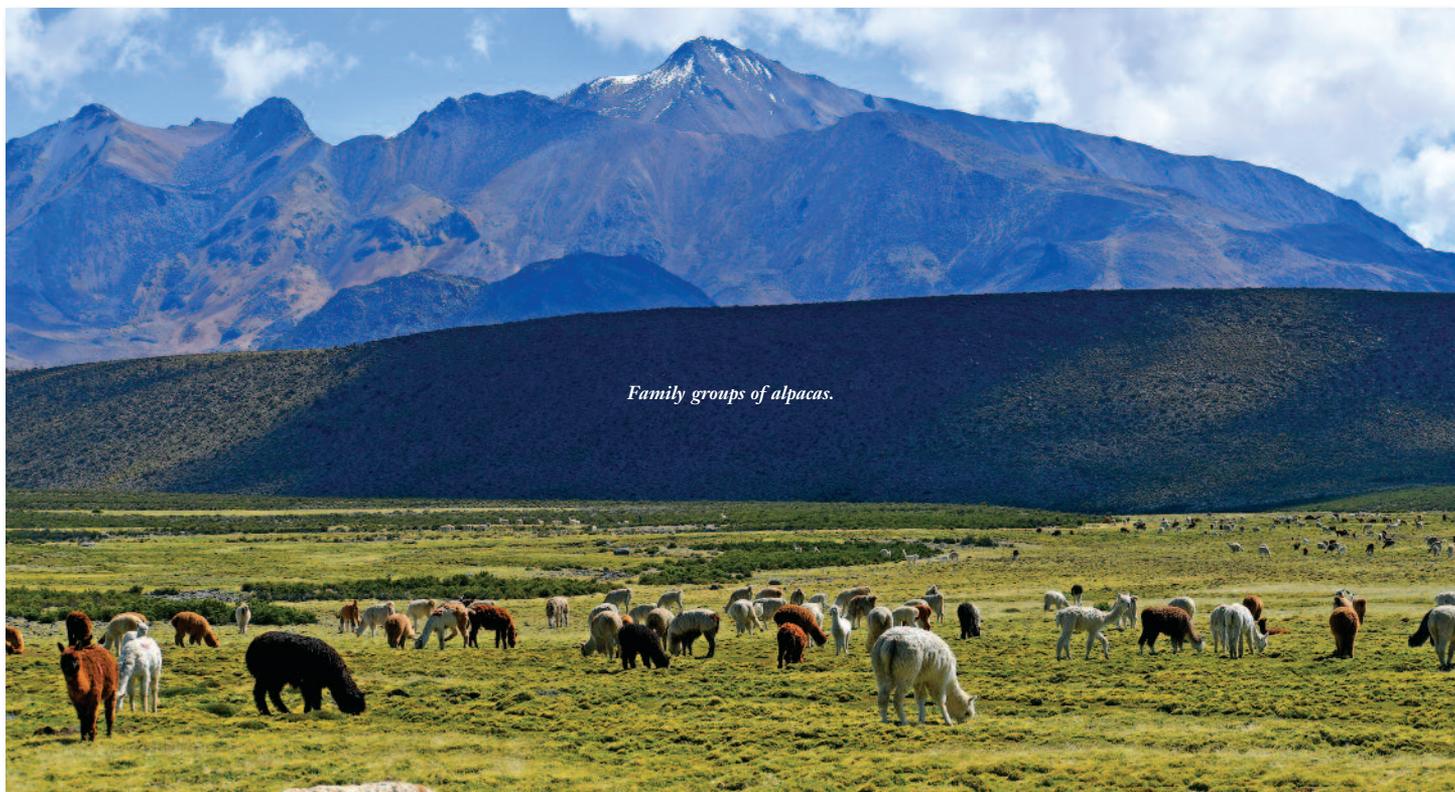


Photo by Roger Kaspar

fighting with no need to establish their own territory with females. They are walked to a neutral breeding pen away from both the bachelor and female herds. The stud breeds and is returned to his bachelor herd when he has finished. A single male returning to a bachelor herd barely causes a ripple to herd compatibility.

Social distancing matters

I'm not talking about Covid-19, I'm talking about social distancing that exists with South American camelids. South American camelids do well with distance from the next animal in the herd while they are grazing. One of the most instructive moments I have had in trying to better understand how these animals are wired, happened as I watched a large herd of alpaca released into a lush bofadesles, encompassing hundreds of acres, at 12,000' altitude in northern Chile. The herd arrived with a herder and his children walking behind them. The herd was expressing a defensive posture with the animals pressed together in a tight mass as it moved forward. When they were allowed on to the bofadesles everything changed. The herd broke up into groups with some showing exuberance by kicking up their heels. The groups broke up into individuals and within fifteen minutes there was about 15' of space between individuals. They generally grazed moving in the same direction. There was no disharmony, no standoffs, only grazing and brief intervals of looking around between chewing and moving forward. The animals moved as they grazed but did so with the same spatial distancing. This was their comfort zone and their behavior showed it.

Thinking of making changes?

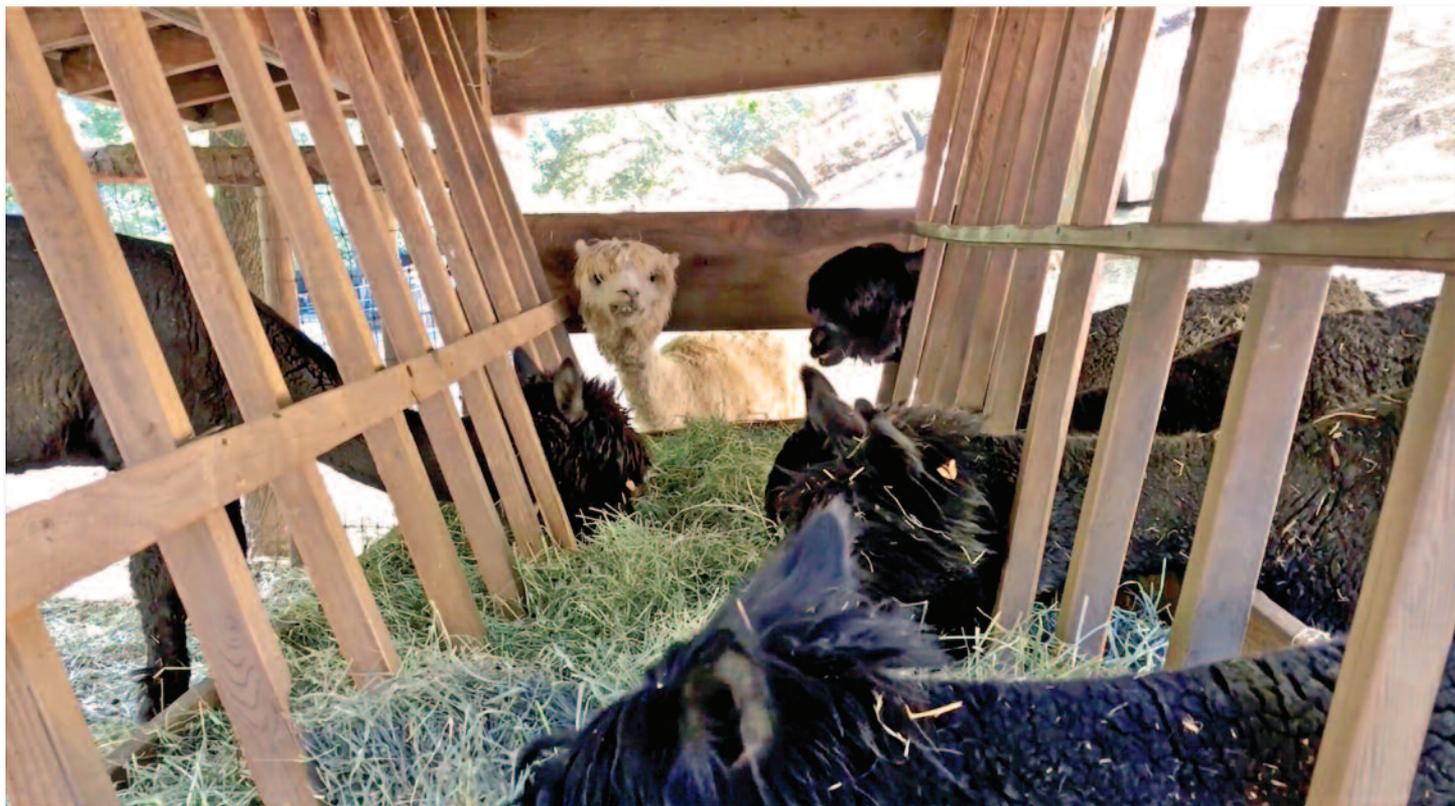
Study your herd. Watch their interactions so you can design or

modify your farm to enhance herd health and well-being. In North America llamas and alpacas often live in dry-lot environments where they are entirely dependent on people for their herd composition, paddock size, shelter, and food. When I think back to watching alpacas spread across the aforementioned bofadesles, showing their desired spacing while grazing, I think we are only part of the way when it comes to creating optimum conditions in our myriad of new settings. In most instances it is unrealistic to be able to allow 15-foot spacing on pasture. However, by designing feeders that minimize hierarchal struggles, eating will become less stressful for the herd. That's a start. By understanding their behavior, and watching how well they adapt and interact, we can move forward with innovations that embrace these animals on their terms.

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About the Author

Eric Hoffman is the primary author of the second revised edition The Complete Alpaca Book, (Bonny Doon Press, 2006). He created the first scientifically based alpaca registry (known as ARI for many years, but most recently merged with AOA) in the world and is author of hundreds of articles on all four species of camelids. His articles have appeared in International Wildlife, Animals, Pacific Discovery, California Living, Wildlife Conservation and many other publications. His speaking engagements on camelids have taken him to many places including Australia, New Zealand, Sweden, Finland, Switzerland, Canada, Peru, Chile, Germany and England in recent times. Most recently he has been involved in cancer research project involving camelids at Kyoto University in Japan. Eric and co-authors Sherry Edensmith and Pat Long DVM published "The Alpaca Evaluation: A Guide for Owners and Breeders", a three DVD set and 120 page fully illustrated handbook.



The large roofed feeder can be approached from two sides allowing 16 alpacas to eat at one time. The horizontal bars inside the feeder makes it impossible for an alpaca to lift its head while feeding. This feature minimizes squabbles which can become full-blown when alpacas lift their heads and assume an aggressive stance. This innovative design also eliminates the possibility of body posturing to intimidate other alpacas, by taking into account the animal's behavior and modifies it, to make eating less stressful for the herd.

Photo by Lorraine Lobianco