LOW-STRESS CATTLE HANDLING: AN OVERLOOKED DIMENSION OF MANAGEMENT

Dr. Tom Noffsinger and Dr. Lynn Locatelli

Dr. Tom Noffsinger is senior partner of Twin Forks Clinic in Benkelman, Nebraska. His daily activities include consultation to beef feeding and cow-calf operations in the areas of health, performance, and animal behavior. Dr. Noffsinger earned his Doctorate in Veterinary Medicine from Colorado State University and completed the University of Nebraska’s Great Plains Veterinary Educational Center Beef Cattle Production Management Series. He received the AVC’s Consultant of the Year Award in 2001 and the Nebraska VMA’s Distinguished Service Award in 1999. Dr. Noffsinger is a member of the AVC, Nebraska VMA, and AABP.

Dr. Lynn Locatelli is a practitioner with Twin Forks Clinic in Benkelman, Nebraska, where she concentrates her efforts on end-point management of cattle and low-stress cattle handling. She earned her Doctorate in Veterinary Medicine from the University of California – Davis. Dr. Locatelli is a member of the AVC, Nebraska VMA, and AABP.

We're excited to share with you what has been the most exciting time in my practice career. The learning and applying the things that Bud Williams has taught us has been very positive. We're not going to teach you how to do these things. Our goal is to explain our motives for being interested in this area, explaining some very basic concepts that Bud has taught us over the past four or five years.

For those of us who are tolerating bawling calves for four or five days in a row, tolerating buller rates of over a half a percent, please listen and see if some of these things might be helpful. Dr. Lynn and I got interested in these things because we wanted to find easier ways to do things. Our profession is having some problems. We're losing more cattle in feedyards today than we were 10 years ago. We have fabulous scientists and very good antibiotics to use. We're improving vaccine technology every day. But cattle are dying, and they're dying too quickly.

I've been blessed with a chance to watch cattle for many years. As I went through cow/calf operations and feedyards, watching for things I could have a positive impact on, I was limited to what I had to provide to the producer. We all have seen cattle that clearly deserve a revaccination or antibiotics or trace minerals or a change in nutrition. Most of us are very good at seeing those things and providing them for our producers. But what bothered Dr. Lynn and me is that we saw cattle doing things not positive to performance and health and nothing in the back of our pickup applied to that situation. We saw cattle doing things limiting their performance, and they did not need to be revaccinated. The last thing they needed was an antibiotic, and nutritionally, we'd done everything we could. We had nothing to provide. Having Bud help us for several years gave us another thing to put in our toolbox that's been a very effective way to take advantage of something we'd overlooked completely. One of the main messages this morning is the thing we forgot to utilize: the people who are supposed to be taking care of these animals.

We are revitalizing the human resources and it's absolutely amazing what we've seen in the positive impact on health performance and safety for both the people and the animals.

There's a lot of research and data out there that comes from slaughter audits that we should be ashamed of. The work done by the people at Great Plains Veterinary Education Center, published in 1999, is very characteristic of that. Dan Thompson reported slaughter audit results at our last meeting—results I'm not proud of. When you look at a calf crop going through a slaughterhouse, there are no difference in lung lesions at slaughter between treated and untreated calves. Forty percent of the calves treated for BRD showed lung lesions at slaughter. When they looked at the calves with "no treatment" tags, 42% had very similar lesions. It's pretty obvious
that our profession and the people we train don't have enough observation ability to allow accurate assessment of health. Some of these animals are able to really hide their illness.

A very important issue is morbidity expectations when we ask animals to relocate and endure anxieties of confinement. It's always intrigued me that a two-year-old heifer in Idaho might have to go five or six miles for water, and might have to live off of yucca and a little bit of brome grass, and yet stay in condition score five, conceive and lactate and not have respiratory disease. Then we gather her up and put her in a feedyard in Kansas that has a clean water tank and every nutrient known to man in the bunk, and she'll decide to stand there and refuse to eat and she'll die there. That gives us some potential to change what happens to these animals. If we expect morbidity, we might create it. If we expect health, we might create it. As we talk about the concepts that Bud has helped us learn, Dr. Lynn and I have realized that it's important to address these things every day. There are event intervention opportunities that lead to a fabulous response. Examples include pasture rotation, fall cow work, calving, sorting off one animal, pairing, weaning, sorting. It's absolutely important that you and the people taking care of these animals apply these principles when the animals arrive at a feedyard, when the cowboys ride pens, when we pull cattle, when we process and when we sort.

We need to think about the task at hand and not be so task oriented. We need to plan before we do things. We need to concentrate while we're doing those things, and we need to keep reviewing and see how we've done. We sometimes have a choice. We can open a gate a let those cattle go out on a wheat pasture and do what they normally do—circle around the pasture for 12 to 16 hours. Or we can turn them out correctly. We can wean calves like we conventionally have done, or we can wean them at branding, organizing the branding day to facilitate weaning. I friend in Nebraska explained his weaning system. If they brand on Wednesday, they gather pairs on Tuesday evening and they have two big corrals. They bring 400 or 500 mother cows and they ask the mamas and the babies to go from one corral to another, wait three or four minutes and ask them to do it again, and the third time they send mothers and babies off in two different directions. They gently ease them into an area where they'll be worked the next day. They have a calf cradle or an alley that's left open and the calves just go to supper. Within an hour or two, all the calves figure out they can file through and find their mothers again. When they go in the next morning, it takes just a few minutes to separate the animals. The calves volunteer to walk into the cradle. My friend commented, "When we wean cattle, no one cries." These are examples of applying some of these situations.

**Predator/Prey Behavior**

Dr. Lynn helped me to understand predator/prey behavior a little better. We have to realize we're working with prey animals and prey animals understand predator behavior. The more we understand the animals we're working with, the more effective we'll be. Predator behavior will invoke instinctive prey animal behavior. We need to utilize the knowledge of predator prey relationships and emulate prey animal communication. We can create positive handling interaction.

An example of predator/prey instinct is the idea that prey animals conceal weaknesses. Think about the lung lesion data that Dr. Bryant reported on. It's no wonder that so many of these animals get to slaughter with serious lung lesions and none of our caretakers have recognized that. One of the excuses we can use is that these prey animals are very good at concealing weaknesses. They've evolved through millions of years knowing that all predators are lazy. No predator will chase the fastest, strongest animal. They're going to pick on the lame, the weak, the old and the depressed. If prey animals are approached by something they consider a predator, they will hide signs of depression, illness, age and lameness for as long as they can. They'll hide it until they die.

We had some calves a couple of years ago from South Dakota. The truck had been caught in a snowstorm and was delayed. When they unloaded the calves under a yard light, they were ex-
hausted. Some had lay down in the truck and one had cut one toe off by sticking his foot through a hole. That toe was frozen to the trailer. The trucker wanted to find that calf and document the incident for insurance purposes. We thought we'd find an obviously lame animal. The power of adrenaline and endogenous steroids is amazing. The only way we identified that calf was he was leaving a bloody track in the snow. We found him, sorted him off, bandaged his foot, put him in out of the weather, and the next morning his foot was so sore he couldn’t walk on it. If they can hide the loss of a limb, they can hide some lung consolidation.

The other thing we always need to remember is that they are beautifully comfortable when they're together. They have a strong, strong herd mentality. They believe there's safety in numbers. They like to be together, and we need to utilize that instinct.

Another basic instinct is fight or flight. Any kind of confinement can be threatening. As predators, we need to override our instincts to chase and yell. Our main goal is to show prey animals that we are not there to be predators, but we're there to take care of them. The next time you're in a feedlot pen, go out and stand and see how big the circle is around you. If you stand like a post, they will gather around you. There's a simple explanation: all predators are rigid. So you're communicating to the prey animal that you're not a prey animal. When a mountain lion is getting ready to jump on a deer, he's rigid. These are important signals we need to understand and use.

Dr. Locatelli: Understanding predator/prey behavior is pivotal in understanding low-stress cattle handling. The animals know the language of the predator and the prey animal. If we learn something about each of these, we'll have a solid foundation for developing communication. Sensitivity and awareness of surroundings are what keep prey animals alive. Subtle movement has a big impact on how cattle perceive you.

Cattle, of course, are not a verbally-based species, so the language we're talking about is body language. It's not intuitive to us, but cattle need to see what is pressuring them and they need to see where you want them to go. In most contemporary facilities, we've taken that away.

Another thing that's very instrumental in understanding handling is understanding how to regulate pressure—when to ask for it, how aggressively to ask for it, and when to release it. Doing that is counter-intuitive to the predator. Those of you who know me know I'm passionate about horses, and the greatest horsemen understand that predator/prey relationship. One of Pat Parelli's sayings is, "The horse learns when you quit doing what you’re doing." In terms of low-stress handling, it's the release of pressure that tells the cattle they're doing the right thing. Expect cattle to work for you.

This comes from Bob Williams: "Cattle tell you where to be if you open up your powers of observation. Cattle are easily trained." That's an odd concept. But we want the cattle to work for us and when they do, it's a form of training. It's two-way communication and respect that gets the animals to work for you. It's knowing when to release pressure that creates success. Try to emulate what those animals do naturally, because that's what they understand.

If cattle don’t go where you want them to go and they don't do what you want them to do, you haven't asked them correctly. That is very humbling. As Bud says, "The cattle are never wrong." It's valuable to me to try to be successful with low-stress handling and have somebody do some video taping, and then show those tapes to Bud. You may be trying to get cattle out the gate while you're telling them to go to the back of the pen. They always do what you ask if you ask in the right way.

These techniques work. These are basic techniques that everybody needs to learn and to teach clients. If you want to SLOW cattle movement, walk with movement. Walk parallel to the motion of your cattle. Walk out to the side and it will slow them down. It works. If it doesn't work, you're doing something wrong.
Walk against cattle movement to speed them up. Approach the herd at a 90-degree angle to speed up the cattle or ask them to start moving. Step back. That's your release of pressure. That tells them they're doing right and it keeps them from going too fast.

I think we all know what happens if we run up behind them. That's the typical predator move. They'll start going in circles. That's where people think that cattle like to circle. Cattle don't like to circle. Usually, they're trying to see what's pressuring them and usually it's a predator back there.

Anyone familiar with Dr. Robert Miller knows he's been given a lot of credit for imprint training. He tells the story that he'd be called out to do a dystocia on a mare and the mare's foal would remember him when he went back to re-breed the mare. That's what turned the light on in his mind to the importance of imprint training. These animals are really impressionable at a very young age.

**Dr. Noffsinger:** The following film illustrates that animals that have been worked with correctly learn much more quickly than cattle that have been abused. This is about 2500 early-weaned calves that had been weaned for about 18 hours and they're bringing these calves in to give them some supplement. The cowboys on this crew include a six-year-old boy on a Shetland pony and a nine-year-old boy on a two-year-old colt. They're bringing these calves in and the father stands by the gate. If he sees a calf that needs treatment, he just steps in front of it and it goes willingly in another direction. The greatest response we've seen in teaching these things are when we have the option of starting at birth. These calves are driving each other. Many times, is we're trying to put cattle through a gate and someone is standing at the gate, it's a problem. It's not an issue here. These cattle are very willing to file by that handler. The point is that this training started at first contact. The presence of humans around cattle can be positive, neutral or negative. What we try to teach people is that the presence of humans can be positive for performance, health and attitude.

One of the things that's been most rewarding to us is that teaching people these things has completely changed their job description, both in their minds and in their activities. We used to ask people why they got up in the middle of the night during calving season. Why did they mess with the first-calf heifers? Most of them said they were there to control dystocia. We do only a handful of Caesarians a year now. The ability to do birth-weight EPDs in our Angus breed and other breeds and the ability to develop heifers correctly makes dystocia management almost a non-issue at this point. So if those people were going to be out there with the cattle, they needed to be doing something positive. Rather than being dystocia managers, we're teaching them to improve maternal success. We encourage low-stress calving and we encourage the bonding of the pair so that passive transfer can happen. It's important, if we see a dystocia, that we take care of it in a timely fashion. Sometimes managing dystocia has had a huge negative impact on passive transfer. A cow can have four gallons of colostrum and the calf can nurse, but we may interrupt that if we put them in a stall and flip the light on every 15 minutes. We want to foster healthy intake and exercise patterns. One of the things that's been most rewarding is that teaching these herding and motion and exercise things has enabled our enterotoxemia control programs to work.

Enterotoxemia vaccine is important. Trace minerals are important. But we didn't get a response to those products until we taught our people to create steady meal intake patterns. It's been amazing what that's done to foster digestive health and performance.

**Dr. Locatelli:** We get calves into the feedyard that haven't been weaned. Typically, people watch them circle the pens and worry about them not eating. You can intervene with acclimation. We want these cattle to be healthy and perform, and they need to start off on the right foot. Acclimation is the cornerstone for getting cattle to work for you.
Everyone in this room is aware of the things that stress cattle. What's important is that we separate physical stress from psychological stress. Great handlers of horses and cattle recognize there's an emotional fitness of animals. Acclimation addresses the psychological stress that's placed on calves.

These calves arrived at the feedyard from Montana on a Saturday night. I was there Sunday morning. They had a big pen to themselves but they were very stressed. There are a lot of reasons to take care of the cattle at this point. They deserve some attention. They deserve more attention here than later on when they're acclimated and happy.

Here's our caretaker and he's going to do some basic things. The first thing IS to stop the panic movement. He wants to identify the initiators of movement and walk with them to start to slow it down. The corners and the fences can be used to stop the motion. We want to avoid pressure on the animals, especially toward the bunk. This person is very skilled and very good at identifying who is initiating the movement. That's key to success in acclimation.

They're starting to understand acclimation. He's going to ask them to move out. The movement is walking away from him, and that's what we want. If they don't trust you, they'll stand and face you. It makes the job of pen-rider much more effective because a pen-rider can pick out the cattle that are clearly sick. What we're aiming for is that cattle will quietly walk away from the rider.

**Dr. Noffsinger:** Notice that the handler never, ever goes behind that group of animals. He's working where they can see him. He's applying pressure. He's saying hello to that group. You'll notice that animals stopping and asking, is this what you want me to do?

**Dr. Locatelli:** He's releasing pressure. How many times do you see a horse in a feedlot back up? These cattle have already had their morning meal and as the footage goes on, we see the cattle return to the bunk. This is important as a foundation because it's developing trust. Acclimation is analogous to the join-up that Monty Roberts does with his colts. Monty Roberts isn't just running that horse around in circles and then having it stop and come in. He's creating a bond of trust that makes the program so successful. They're looking to him for directions.

**Dr. Noffsinger:** It amazes me that everything those cattle are doing is in response to what the handler is doing. They are focusing on him, not each other. They don't notice that a feed truck went by. They stop and say, "Where do you want me to go now?"

It was hard for me to understand, at first, that you can interact with these animals from huge distances. The first time I ever saw Bud was on a National Geographic television show walking 2000 reindeer 26 miles across the tundra to get their antlers off. By himself, he handled those animals from a mile or two away. This distance is very important.

**Dr. Locatelli:** You can do acclimation on foot. I decided to try that with these Saler cattle. I knew the techniques work and I knew you need to adjust to the cattle. The cattle tell you what to do and where to be. So I hopped back out of the pen when they told me to and I did the same technique outside of the pen, and it was very effective. Sometimes you have to be a little bit creative. Acclimation is paramount to future handling success.

It's the responsibility of handlers of these calves to become leaders. We want these cattle to think of this pen as home. We want them to be comfortable. Busy is no excuse for not acclimating the cattle. This doesn’t take a lot of time. You might spend 20 minutes a day, and over the course of a week, you might have it down to 10 minutes a day. It's not a huge time investment, but it leads to a huge pay-off. Working with new cattle is very rewarding, but a lot of times, people put up an obstacle and they think time is going to be a problem. It's not. Cattle by nature are followers. They are looking for leadership. Even if your skills are a little bit rough at first, cattle should not perceive you as a threat. The last thing you want to do is walk into a pen of
calves and have them feel threatened. It makes pen-riding disastrous later on. But we don’t want a bunch of pets. We want these cattle to work for us. Pets are not good. They may trust people, but if they don't know how to work for you, then they get really stressed when they experience just a small amount of pressure. If you try to put them on a truck, or through a processing facility, that's very stressful to them.

**Dr. Noffsinger:** I think this is a good time to explain something I think is important to us. As you watch people working with these animals, if you remember nothing else today, remember that it's unfair to teach care-takers to do this until you have the understanding and the support and the harmony of the ownership and management of this operation. If you teach someone to do this and ownership and management does not understand what you're doing, these things will almost become negative. The cattle will understand, the handler will understand, and there will be times when the handler or the pen-rider knows there's a priority pen that deserves this, and the manager of the owner will drive by and here's this fellow standing out in the pen for seven or eight minutes. He's not sweating, he's not excited, he doesn't appear to be under duress, so it looks like he's not working. Please, get the support and understanding of the ownership and management before you even mention this to people.

Cowboys, handlers, pen-riders, feed-truck people—all can learn these techniques, but this makes some managers very nervous. It takes some time to convince management they have a choice. The pen needs to be checked anyway, so why don't we spend our time doing something positive? If a handler is watching a group of cattle to find the initiators or the central animals, the ones that deserve antibiotics or need treatment are so obvious they just almost knock you over. Here's another example of changing the job description. The principles of acclimation make everything in the feedyard or on the ranch so much easier.

What's really interesting is that everybody gets excited about the arrival of new cattle—handlers, pen-riders, feed-truck drivers. Last week I was out at a place that had some new calves from Tennessee and I never thought I'd see this, but the feed-truck driver came in while we were working in the hospital and said to one of the cowboys, "Pen 13 is not doing what you think it should do. Someone needs to go take care of those calves." When you have the support of ownership and management and the relationship of harmony between the feed crew, the treatment crew, the pen-riders and the processors, these things all start to happen. You can do these things horseback, afoot, on your hands and knees, on a pickup, in a four-wheeler. The principles are all the same.

The importance of acclimation is to convince these animals that they've arrived at someplace better than where they came from. That takes a stretch of imagination if you're going from the Flint Hills to Garden City or Leoti. Acclimation and exercise and handling allow you to do that. If you train your calves to respond to handlers, all of a sudden you have this ability to accurately access health. All of a sudden, you can tell which calves are sick. These animals start to communicate illness instead of hiding it. I think every consultant in this room has told the pen-riders not to look just at the cattle up front, but at the ones behind because the sick cattle are going to be hiding. It's true that sick cattle will avoid pen-riders and handlers, but only if they consider that person a predator. You've probably all had this experience: you drive down a feed alley, or the feed truck goes down and the driver says, "There's three calves in pen 32 that really need help today." They're obvious to the feed-truck driver and they're obvious to you in the pickup, but when the cowboy rides in, they disappear. They never show up at the hospital. It's not because the cowboys are blind, but it's back to that instinct to hide illness from a predator.

We're to the point now in some of these operations where, not only do the sick cattle not hide, but they seek pen-riders out. That's one of the most amazing things I've ever seen in my life. You'll see them standing there. The real obvious one will be in the middle and there will be three of his cousins that will step behind him. They're all there together, waiting for someone to take care of them.
With correct handling, the calves look forward to the handler coming back the next morning. Doing these things enables some of our antibiotics to work. A pen-riders job description has changed. For most pen-riders, the priority is to find cattle that need or deserve treatment, get them out of the pen and take them to the hospital. Then he's done. It's not that simple where we work. Pen-riders are there to create positive attitudes in animals. They create trust and communication between themselves and the cattle. They take acclimation one step further; they keep those cattle sensitive to handlers. They convince these animals that they do not need to conceal their weakness. They can convince themselves that cattle are attitude-sensitive.

There's been some discussion of consumer perception of animal welfare. A lot of the consumers I talk to never ask me questions about BSE or hormones or price. They want to make sure that we're not being mean to these animals when we "lock them up," they call it. I think it's very important that we all work together and demonstrate to consumers in Los Angeles that we have good people that care. These are very new concepts—to think that our job is to manipulate a change not only in the health and performance of these animals, but also in their attitude from day to day.

Cattle that will work for you develop trust in their leaders, it those leaders are not threatening. You can guide their motion very easily and you can convince them that you're responsible for taking them to good feed and water. Most of the improvement we've seen in buller rates is determined by how the person unloaded these big yearlings off the truck. What's important is whether they're looking forward to a handler coming in or detesting him. If we have to ask these cattle to go somewhere else, they can be examined for lameness, for depression, for digestive upsets, and the handler is also looking for a change in attitude. He can see ration-change issues and all kinds of things.

The pen-riders' job description has changed to the point where the responsibility is not to find and detect sick animals, but to create a scenario where all these cattle eat, drink, and are merry. If every animal in the feedyard eats, drinks, travels, breathes well and has a good attitude, the pen-rider has done his job. Finding cattle to treat becomes secondary to keeping the cattle healthy, and cattle will communicate those things if they don't feel threatened.

We need to refine and utilize our powers of observation and to develop the confidence and skill to intervene. We're able to observe things we never thought we'd see. It also gives us confidence to do something about it. Our pen-riders shape the behavior of cattle in our yards every day.

It's easy to get cattle out of a pen on day one if you have to implant them. By the time they go 250 days, sometimes it takes an army to get them out of that pen. Why is it? Because for 250 days we've taught them to spin in front of pen riders. How pen-riders remove single animals is terribly important. This is an example of a red brockle-faced heifer driving a big yellow horse and a cowboy. The guy and the horse are going wherever that heifer wants them to. He didn't say hello to this animal correctly.

This is a stress to the heifer and it also demonstrates to the rest of the animals in the pen that we don't know what we're doing. If you are sick and don't want to go to the hospital, you'd better hide from this guy. Here, the horse knows more than the cowboy. The negative presence of the cowboy creates stress and reduces the willingness of these animals to cooperate.

**Dr. Locatelli:** Here's an example of a pen rider pulling a red steer, and the steer is focused on that rider. You can see the steer ask the rider, "Where do you want me to go? What do you want me to do?" It's not a face-off. Treating cattle like this is much more rewarding. THIS IS low-stress handling.

**Dr. Noffsinger:** What's important is that calf will never forget that experience. If you have to go get him tomorrow, it will take a third of the time it did today.
**Dr. Locatelli:** To get cattle it of a pen, Bed Williams has taught us to work in a T, so make a T towards the gate. If you have three cowboys, you would have the sides be the guides and they would stay in line with the driver. The driver would move back and forth across this straight line and zig-zag toward the cattle and out the gate. It's very effective. Even if the cattle haven't had a lot of acclimation, they understand this and respond to this much better than if you circle around them and act like a predator or push from behind. The subtle difference in AN ARC versus a straight line makes a tremendous difference to the cattle.

This cowboy is 67 or 68, but he's really embraced these techniques and done a phenomenal job. This was a January day where the thermometer was right at zero. He told the other riders to stay in where it was warm and he'd go get the cattle. There were 312 steers to re-implant in the pen. The last pen we saw was 180 head and it took three cowboys nine minutes to get most of them out after lots of running around. It takes this cowboy by himself just a few minutes to walk these cattle down to the processing building.

These cattle have been acclimated and do work well for the riders. Getting them out of the pen is simple, stress-free and quick.

**Dr. Noffsinger:** This was a tough transition for this person because he's done quite well with a whip and a dog and a lot of voice commands. It's impressive that this man at this age can be turned almost 360 degrees and learn to handle animals without voice, and to create motion and maintain it and not interfere with herd instinct.

**Dr. Locatelli:** There's 106 head in this pen. A rider comes in and the cattle start to move in the right direction. Then two people show up and zig-zag back and forth, and this is typical how they empty every pen.

We really like an open design. We like a Bud box. We like an open Daniels' alley. We find them very effective. Well-designed facilities foster the smooth quiet flow and cattle. Well designed facilities do not mean lots of steel, lots of cement and lots of arcs.

Poorly-designed facilities often result in harsh and aggressive driving behavior. If you understand cattle behavior, it changes your perception of what an ideal handling facility is. This is considered state-of-the-art, but this is not how I like to see cattle come out of these facilities. (with a chain around the neck, attached to a loader bucket) That takes a lot of time and it's highly stressful to cattle. If you have a facility that you're locked into, understanding cattle behavior can change handling outcomes even when the facility is less than ideal.

**Dr. Noffsinger:** A lot of what you see these handlers doing is effective because of their understanding of the prey animal instincts. This is a good example. It's unfair to teach handlers to handle cattle if you hide the cattle from them. You can reduce your manpower requirements if you'll teach this person that he can move this complete alley by not going over too far. He needs to go by and come back. He can stand there and do that dance with his feet or his eyes or his head, and if the person is putting them in the alley correctly, no one else is required to keep that flow going. He creates a focus.

Prey animals have eyes that are completely different. They don’t have round pupils like predators. The pupils of all these animals' eyes are horizontal; they don't see up or down. They get this broad picture. Their eyes are not in the front of their faces. They have an eye on each side of their head. If you combine the eye location and the pupil shape, it's absolutely magic. When that animal puts his head down to graze, he has 360-degree peripheral vision. That's so much different from our visual abilities. Prey animals' vision is completely different from ours and we're asking them to do things that we understand. Their peripheral vision is a huge advantage. The trade-off is that they don’t have much depth perception. They know what's out there, but they have no idea whether it's 10 feet away or 30 feet. Their depth perception is terrible.
So in order to convince these animals that you understand that, there are some simple things you do.

Cattle or horses hate a linear approach. The flight zone for cattle is not round; it's egg-shaped. It's important that you indicate to those animals that you understand the peripheral vision and the depth perception. It's just like having a friend who's lose one eye. In order for them to tell how far away you are, they have to move their head. To be courteous and respectful to a prey animal, you never approach it linearly. Every 15 minutes, they like to see what is pressuring them and they like to see where they can go.

They are very sensitive to motion. Say hello to an animal, get a response, then stop and back up. Apply pressure and take it off. These things can be much more subtle. Also, if you understand their senses, then you have a lot better ability to explain the response and you can communicate. Their ears are similar to their eyes. They have a lot of hearing ability, but they can't tell you where the sounds are coming from and they don't know anything about verbal language. They prefer stone quiet. If our handlers have to scream and yell, we ask them to do that at home in the bathroom by themselves.

Processing can be either positive or negative. We need to be able to give vaccines and antibiotics without stressing the animals. Re-implanting—we have a choice of devastating intake or improving it. We have people castrating 700-pound bulls at 60 days on feed with a half a pound of intake loss on the day they're processed, and normal feed intake from that day forward.

Understanding these concepts changes priorities. You're not there to re-implant those cattle; you're there to work with them. You're there to build and maintain trust. Cattle hate to touch each other. Don't crowd them up and go to lunch. That's a crime.

When people start understanding how to interact, it becomes easy to convince them that crowding cattle stops flow. Taking their visual abilities away stops flow. Never fill that tub more than half full, and it you get too many cattle in the tub, work at the front to get them out. If you interact and you're too noisy, they will come toward you. When they can see where they can go, then you can manipulate them.

Be familiar with how many fit. If cattle can see where they can go and volunteer to stop, they like to go back where they came from. If you create motion, go with it. Do not get behind them. Initiate motion and move with that motion.

Understand the capacity of the crew. If you're branding, castrating, processing, tagging, it's going to take some time. If you're simply re-implanting, then you have a different flow. It's up to the quarterback out there bringing cattle to understand what's being done up front. He's the most important person in that crew.

**Dr. Locatelli:** I was ultra-sounding cattle one day and the cattle had moved through this system faster than I'd ever seen them move before. I stopped and looked and I noticed there was a crop consultant loading the tub. He was the guy in the back, the one making everything go so fast and so smooth. He didn't want to go in the tub with the cattle, which was a good thing, but he was a lot more interested in visiting with the guys running the chute. So he spent as much time at the chute as he could and as little in the tub as possible. Since he didn't go into the tub, he'd just take his little whip and just kind of tap it toward the cattle, facing the back of the tub, opposite of what most people would do. That was very effective.

**Dr. Noffsinger:** Take advantage of the instinct. If you want to create flow toward the chute, walk against that. What some people don't realize is that if you walk this way, you're asking the cattle to walk this way. We need to utilize our understanding of animal instincts. We have to understand a lot of cattle came from an environment like that and they need to see where they're being asked to go. They love to see what's pressuring them, and a lot of time they choose to go back where they entered. Use these ideas to improve your handling abilities.
Dr. Locatelli: This is a BUD box and this has been an incredible tool for our clients. The principle is very simple. Cattle choose to return to where they’ve come from. We have to do things a little bit counter-intuitively or opposite of what we might think. We're not going to fill the BUD box more than half full, and it can be open sided.

We like open alleys. They facilitate cattle-handler interaction. Cattle can see who's pressuring them. They can see where they need to go. But not all alleys fit all cattle. Sometimes it's not the biggest cattle that present the biggest problems. It's the short, fat heifers that get stuck in there. The open alleys and adjustable alleys are really nice.

Usually this person stands back and watches the cattle file into the alley. If he needs to pop one forward, all he does is walk forward towards the cattle, and that's generally sufficient. If he gets sent off somewhere else, you can have one of the implanters walk straight back toward the head of the cattle. If someone is driving toward you or walking toward you really fast, your instinct is to move away. It's the same thing with the cattle, but they can't go backwards, so they pop forward. They certainly don't need a hot-shot. Handler movement is very effective.

The chute operator's skill has a profound effect on work quality. But proper acclimation and proper handling out of a pen determine whether the cattle walk into and out of the chute. If they start bouncing around, it makes your job difficult. We don't need to describe the injuries that happen in chutes to this group. They are part of what happens. But why do we accept that as just part of working? It doesn’t need to be that way. We can take these injuries down to just about zero.

When working in the processing facilities have the courage to get rid of negative influence, whether it's people, hot-shots or dogs—when people have the courage and the confidence to remove that, everything changes for the better.

There are some misconceptions about some of the contemporary facilities out there. Solid sides create confinement anxiety. They're not soothing to cattle. If we understand cattle, we don't use steel and cement. We hear that cattle want to circle. If you watch cattle in a natural environment, you don't find them circling. In a circle, they're usually looking for something that's pressuring them, which is usually a predator. We hear that cattle fear shadows. But if they feared shadows and other obstacles, they couldn't live in their environments. A lot of times what's going on is visual adaptation. When they're putting their heads up and down, they're trying to focus. If you just back off for just a second, often it passes. It's not a real obstacle to working cattle.

We're not fans of tubs in our practice. They create confinement anxiety. People typically want to over-stuff them and crowd the cattle. That slows down any kind of processing you're trying to do. We also think they're safety hazards for both cattle and people.

When we look at the specs on a BUD box, usually the cattle are going from a narrow alley into the box that's about two feet wider. So we're asking them to go to a place where there's more room. We need to re-evaluate some of the contemporary design principles out there.

When we started ultra-sounding cattle, people were really upset about having to sort cattle before slaughter. If the cattle are accustomed to positive handling experiences, sorting results in better productivity, performance not quality loss. Value-based marketing is a strong driver for sorting. If you do it well, there are rewards out there. If you do it poorly, it will be costly. There are a lot of techniques to keep us from doing it poorly.

A pen of cattle going around in circles is going to be a disaster later when they go to put them on a truck. It doesn't have to be that way. We saw a BUD box system used and it took six minutes to load trucks.

Dr. Noffsinger: We need to be able to control what we can control. These are consequences of poor handling: toe abscesses, toe abrasions and other problems that are absolutely a disaster to performance and health. If you have several animals in a pen that have feet like this and if you think about the instinct to hide lameness, there are probably 50 head of cattle in there that are not limping, but have sore feet. That doesn't foster intake. We see lots of bruises and a lot of trim as
cattle are loaded incorrectly. We see buller issues, fractures, shoulder separations and shoulder abscesses. Hundreds of thousands of dollars are thrown away because of that.

Recently we've had the courage to insist on cattle comfort with wood shavings four inches deep, which absolutely changes the incidence of all these things. It changes the amount of urine and manure produced in a processing barn. It's important to know that how you unload and how you process has a direct effect on how many non-eaters you have. These are the animals that may create a break-through situation for your treatment crew. Golden is a three-year-old from Georgia. Someone decided to bring her from Georgia to Garden City and put her in with 170 cutting bulls and heiferettes. She didn't like it in there. She came to the hospital three times. Her temperature never got above 101°, her lungs sounded clear. She didn't need $35 worth of antibiotics. If you can convince your people to recognize these animals on the second day at the feedyard, teach them how to interact and turn them into competitive eaters, we've come a long way.

You need to have confidence that animals like this need no antibiotics but need tender loving care. Treated correctly, they will flourish. These are opportunities for us.

These are not controlled studies, but these are the changes we've seen in data. At one ranch the dark cutter rate went from 18% to less than 1% in three years. The problem is that now our discounts are heavy-weight carcasses. That's a better discount. Instead of being sold in June and July, they're leaving in March and April. It allows production performance you never dreamed possible.

The way we acclimate cattle has a lot to do with buller incidence. Buller incidences can range from 10% to a half of a percent. You can have the same positive effect on sale-barn cattle as you do when you have control of animals from birth to slaughter. This operation expected to treat 35% of the cattle and lose 3%. They've now gone to where their morbidity is what their mortality used to be. Expectations today are 7% with a half a percent death loss.

As these pen-riders try to understand what you're talking about, you'll have performance by pen-riders beyond your imagination. This operation was used to 12 to 17 pen deads per month. At one point these people went 59 days without a single respiratory pen dead. The most rewarding part is when you get people working together to achieve these things, you almost eliminate labor turn-over. These people would not consider moving to another feedyard to work.

These people here had control of their cattle from conception to slaughter. They were accustomed to losing 7% of their calves from weaning to slaughter, treating half of them, spending $6.30 a head on them. Last year, they lost half a percent, treated 3%, and spent 42¢ a head for treatment.

Dr. Locatelli: Experience is a wonderful teacher if you're paying attention. Bud has taught us to pay attention. He's taught us to react to the situation. Don't think in terms of failure, but in terms of success. We used the example of the CROP consultant to illustrate the powers of observation. Five years ago, I would have said, "Boy, those cattle are working good today." But after working with Bud, I opened my eyes and I figured out why they were working. With the pen of steers I was trying to acclimate, I reacted to a situation by getting out of the pen but using the same techniques.

Don't worry about being task-oriented. Worry about being solution-oriented. Develop a strategy for success and don't focus just on the task. Don't anticipate what will or what should happen. Think positive and have some ideas, but remember these are cattle. If you start on Plan A, don't be afraid to go to Plan B of things aren't going well. The cattle will tell you how they want to be worked if you're paying attention. What works one day may not work the next. Think back to your repertoire of tools. What works on one pen may not work on another pen, but the principles are solid.

We've done a lot of attitude remodeling since working with Bud. Be aware of what is possible. Remember the sky's the limit. All great animal handlers recognize the emotional
fitness of animals. That emotional fitness is something we haven’t dealt with at all in our industry.

What about subtle behavior? Animals are keen to it; we're the ones who aren't. All human contact will shape behavior. Tradition can make you look like a fool. Animals learn quickly, especially when we learn to speak their language. People learn slowly, if at all. If we open up our minds, we can do great things.

Animals look for leaders; be a leader. Create a team effort. Cattle are attitude sensitive. Bad tempers, anything detrimental should be removed. There's no reason to have to tolerate it. Remember that the release of pressure teaches the animals when they're doing the right thing. It's not intuitive for us to release pressure.

We can choose to accept what's normal and what's traditional, or we can choose to make improvements.

**Dr. Noffsinger:** Think about what you instinctively do and practice over-riding that behavior, The next time you go into a pen of cattle and you want to take them out, do not just go around and try to shove 100,000 pounds through a door. Work from the front of the animals. Ask the animals to go back. Put gentle pressure on them and when they volunteer to walk by you, get out of the way and let them go out that door. Try to empty pens of cattle by never going around behind them. It's amazing what you can do in front of these animals.

You build awareness and you start reacting to situations. You start understanding what you're seeing. We've improved our efforts to pre-condition cattle and we have operations where it makes no difference at all. The health data is the same. Dr. Lynn and I have operations that can tell to the penny how well the calves were pre-conditioned. It's black and white. The issue of lung lesions showing up undetected is not a mystery. We've spent huge amounts of money in field trials to prove that one antibiotic is equal to the other. That tells you that there are confounding factors out there more powerful than the choice of antibiotic. These are the things we're starting to observe.

The downside of this thing is that after you start learning it, you need to be aware of it every day and you have to pay attention. The tendency is to get in a hurry and jump in there and go behind them again, not thinking about what we're doing. The creation of safety and harmony, not only between the animals and the people, but among the people, is the most positive thing of all these efforts. You'll become very humble and you'll start to understand that life is just a series of mistakes, but these are not mistakes if you learn from them. An expert is just somebody who's had the courage to run out there and make as many mistakes as he can and learn from every one of them. If you're moving cattle and you go too fast, slow down. That's an example. What we've learned in these areas of handling has taught us that our current ability to handle cattle has encouraged cattle to hide their true state of health. If we understand some of these very simple animal behaviors and instincts, we can easily promote the performance and health of the animals we work with.

It's very plain that cattle do what you ask. If you ask them not to eat when they come in the feedyard, they will not eat. If you ask them to eat, it's truly amazing what will happen. We are getting intake levels with high-risk calves in the first 30 days that are 106 pounds over what they were a year ago—same cattle. Feedyard operators love to sell feed. On 7000 calves, that 383 tons of feed, and the feed is not negative to respiratory resistance and performance. Develop the confidence to ask for these things. Know what your abilities are and ask for behavior that fosters good health, performance and safety.

Question: What did you do with that set of Charolais-cross Montana calves that was running and bawling? How did you handle that situation?
Dr. Locatelli: Those calves did well. The first three days of acclimation was rough. After that, the calves turned into pups. Once they were co-mingled, they performed really well.

Dr. Noffsinger: The handler identified the initiators and used the corners to show those calves they could stop. Stop, go to another pen, come back and do the same thing once more or the next day. It's a step-by-step acclimation process.

Question: Do you have any tips for calves that have been completely mishandled before you get them?

Dr. Noffsinger: Those are the most fun. They respond more quickly to good handling. Those are the huge opportunities. We work with those animals outside the pen, from the feed alley. We started with some Brahmas two pens away. In about 20 minutes, you can be in the on with these cattle asking them to do things. These Florida calves are like a sponge, they're so eager for good handling. They're sensitive and looking for some guidance. If you do it correctly, you can build their trust quickly. You have to maintain it. You have to understand distance and direction and release of pressure.

When you unload animals, you teach them they can walk by you without harm. You teach them that you can stop them and turn them around. Rather than jumping up on the scale and being a predator, get out in front of them and show them you can stop them. If they don't want to walk by you in an orderly fashion, make them go back on the scale. You may have to do that a couple of times, but they will file by you and you can count them. Take them down the drover's alley and let them go by the home pen. Go down and have them volunteer to stop. They will be there only three seconds and here they'll come again. This time you step aside and let them in the pen. You've taken them somewhere, they've volunteered to come back, and you give them another chance to pass by without harm. Don't shut the gate. Follow them in there. Don't take your cattle to a pen that has nothing in the bunk or the tank. You have to have hay and ration and water up there.

When you let them pass by going into the home pen, walk a third of the way up and go across the pen twice. Their peripheral vision will tell them that you are the welcoming committee. You said hello at the scale, you took them someplace where they understood where to go, and you took them to a beautiful place with nutritious food and water and a place to rest. If you do this correctly, those cattle will eat 80% of what is in the bunk, they'll take a drink, and they'll all bed down in a perfect semi-circle around the tank and the bunk.

The critical pens to concentrate on are the end alley pens. If they can see other cattle grazing on a pasture, where do they prefer to be? You have to work with those cattle two or three days in a row. Take them for a walk, bring them back. If you're not successful in three days, you need to move them up into the body of the feedyard.

That acclimation is so simple. The key is you have to choose to do it or not do it. You can watch the reduction of adrenaline. We have to tell our feed crew to be careful. We do the same thing in the hospital pen. When we have severely ill Tennessee cattle in the hospital eating 82% to 85% of what their home-pen is eating, that's amazing. Those cattle get better. Acclimation can mean a lot of things.

Question: Do pen-riders respond to this in a positive fashion? Does it reduce turn-over?

Dr. Noffsinger: It's amazing how our numbers have changed. The log has gone from 12 to 15 pen-deads a month to 59 days without a pen-dead. It changes things completely. If they find an AIP and take it to the hospital, they don't go off to lunch. They go and find a doctor and ask that the calf be treated immediately.
My dream is that we can justify having twice as many pen-riders because now they're doing productive work. These guys are the first there in the morning and the last to leave. They are in danger. Getting new cattle to eat 383 pounds of feed in the first 30 days is worth some money to a custom feedyard. Having a repeat customer is worth some money. Long-term, we have enough people to do this better and better.

Question: How important is color in the chute?

Dr. Noffsinger: It's not the light, it's the openness. They don't like solid sides, no matter what color they are. It's just like you threw an anchor out. Create openness. Making facilities with solid sides and cement is not a good idea. I knew of two people dead because of that. You can't get out of there. Watch for the opportunity to take advantage of the fact that cattle like to see.

Question: What about dogs?

Dr. Noffsinger: They are wonderful creatures, but they have to know that when you get animals into a holding pen or into an alley, there's no place for the dog. Well-trained dogs understand. They know when the gate is shut, they are on vacation. They are the best helpers in the world if you know how to use them. They need to know how to disappear and be quiet.