Angus Talk

Outtakes and interviews from Angus Talk *radio*

Take care when giving vaccinations

Giving vaccinations is a primary task when Angus breeders work cattle. Knowing where and how to give cattle injections is important stuff. It can impact your bottom line down the road. Gant Mourer, a beef value enhancement specialist with Oklahoma State University, talked with host Doug Medlock about injection sites.

Q: Why is it so important to correctly administer injections in cattle?

A: First and foremost we have the welfare of animals, and that's both the long-term welfare, meaning vaccinating to help prevent other diseases down the road, and of course right there at the time of injection. One thing we need to point out is the human-safety aspect, which we don't talk about that much. Also, the economics of those vaccinations working properly is huge. We spend a lot of money purchasing vaccinations. We want those vaccines to work.

One thing I want to point out real quick is when USDA and FSIS (Food Safety Inspection Service) released the 2016 residue findings, only 0.29% of beef product tested had residue violations. Of the millions of cattle we have in the United States, only about nine had a residue violation. Our beef producers are actually doing a pretty good job.

Q: When is the best time for cattle to receive shots?

A: Typically, at the ranch we'll probably give a vaccine when that calf is 2 or 3 months of age, which is what we consider "branding time." Then we'll revaccinate that calf at weaning and try to get that calf ready to go for the next step in the process, whether that's a stocker situation or directly to the feedlot.

Of course, if there's no background history on those calves, whoever receives those calves, they're going to revaccinate them at that point in time.

To answer your question, the best time to give those vaccinations is any time we can eliminate stress on that calf. Vaccinations don't work really well if those calves are heavily stressed. What we're starting to see is if those calves have been transported a long period of time, instead of vaccinating as soon as they get off the truck, we may wait to give those vaccinations to make sure that they work.

PHOTO COURTESY OF GANT MOURER

►Gant Mourer, a beef value enhancement specialist with Oklahoma State University, says in the early 1990s, we saw incidence of injection-site lesions at about 20%, a pretty big number. Producers have done a good job of moving those vaccinations thanks to educational programs like Beef Quality Assurance and others.

Q: How can you tell if a cow is stressed?

A: If those calves were just separated from the dam, they may be walking fencelines, they may be bawling for Mama. If they get off a long truck ride, they may go immediately to water. They may want to go lay down. There may be a little bit of labored breathing. You never can tell if it's a hot situation out there. So there's a lot of signs involved with stress of cattle.

One thing that works really well at the ranch is if we have the labor and the facilities, we can pull that calf off maybe 30 days prior to weaning, vaccinate that calf, and put him back on the mama cow. That works really well, and really improves the vaccine efficacy.

Q: What role should a veterinarian play in giving shots?

A: One thing we promote with Beef Quality Assurance (BQA) is the VCPR, the veterinary-client-patient relationship. Really, all that means is, do you have a relationship with your veterinarian? With that relationship, the veterinarian can help you determine what vaccines you need to be giving specific to your area.

If you're a smaller-scale producer who doesn't have great facilities, but we can get those calves and cows caught, maybe we'll take them to our veterinarian and use their facilities to work those animals. I would say 99% of our producers give their own vaccinations. The veterinarian's probably not actually there and doesn't need to be there, but he's involved from a management perspective, and he's involved from what diseases may be in the area.

Q: What's the best location to give a shot to an animal?

A: What we've done in the past, and in the past I mean 20, 30, 40 years ago, we've given a lot of vaccines and antibiotics in the rump area or in the round. What we're actually doing, we're giving a vaccine in part of the carcass that we get a lot of meat product out of. In fact, 25%-30% of our product comes from that round area.

What we want to do is move those vaccines — any injection that we give at all really — to the neck area in front of the shoulder. Again, there's the chuck area, and that shoulder area is a really valuable piece of meat. We'll actually draw a triangle on that neck, and we're going to give that vaccine in the neck. If the product allows, we're going to give it sub-Q, which means subcutaneously, or directly underneath the skin.

Q: Why do you think people have always traditionally gone to the round?

A: I don't know if it's because that's how we treat humans, or if it's a convenience factor. We can load them up in an alley and maybe give those vaccines real quickly, but if that's the case, a lot of times we don't have that animal restrained very well. We may bend needles, and it's pretty dangerous.

Q: Is there a negative relationship between injection sites and meat tenderness?

A: You know, it is affected. I like to put things into human perspective. Think about the last time you got a tetanus shot, or possibly your kids were vaccinated. Whenever we get that shot, it's really sore. If we're not careful, we'll actually give that vaccine in the muscle, IM. Keep in mind, a lot of products that we used to use were required to go IM. So we're actually putting that needle in the meat product. We're causing scar tissue. We're making a tough product.

If we're going in the muscle some, it may affect how that product is absorbed and the efficacy of that product. It causes bruising and damage to that actual product. Keep in mind that the product is safe to eat once we observe the withdrawal time for most products, but it could be a very negative eating experience if we actually get to eat the actual injection site.

Q: Is that damage permanent? Can they grow out of that?

A: Typically not. It may reduce in size, but it's still scar tissue. It's still a real grainy type tissue, a real rubbery type tissue.

Q: How much area around the injection site is affected?

A: We might actually see an area in the muscle that could be 3 to 4 inches, possibly. As that animal grows that'll decrease, especially on a percent basis, but that scar tissue will be there permanently.

Q: What about injection sites that have no visible lesions on the outside. Do they leave a visible mark?

A: A lot of times they won't. Again, it goes back to how we're giving those injections. If we're going to use a subcutaneous directly under the skin, we probably won't see a mark on that particular animal. If we misuse that vaccine and give it incorrectly, again, you may or may not see an abscess or see a mark on that animal. Maybe we used a dirty needle, and we will get an abscess. You never know, but there could be damage underneath the skin if we're giving that product sub-Q, or in the muscle.

Q: Oh, so you could be damaging the product without knowing it.

A: Absolutely. We just need to make sure those calves are restrained properly and not moving around a whole lot so we know exactly where that vaccination is going.

Q: That makes it a little safer for you, I imagine?

A: Absolutely. So, it goes back to that human safety. We don't talk about it very much, but we don't need to be injecting our thumbs or hands or our fingers with any type of vaccine, especially antibiotic.

Q: What kind of economic impact do injection-site lesions cause?

A: Back in the early 1990s, we saw incidence of injection-site lesions at about 20%, a pretty big number. Producers have done a good job of moving those vaccinations thanks to educational programs like Beef Quality Assurance and others. The number we found in 2000, in one research paper, was about 2.5% of all product actually had an injection-site lesion. It's come down a long ways from there.

I think more important is the efficacy of the actual vaccine, and giving it properly and storing that vaccine properly. At the ranch, and even at the feedlot, we're spending $10-$15 a head on vaccinations, and we don't want to waste that vaccine. We want that vaccine to work for us. We want to get our money out of that vaccine.

The other thing is, if we properly vaccinate those calves, the health of that animal throughout the beef production system is maintained, and we don't have to doctor that animal with antibiotics later on. That animal performs better; they eat better. It's just an overall better experience, not only for the animal, but for the owner of that animal, as well.

Q: What's the correct way to give a subcutaneous injection?

A: Our recommendation is to use what is considered a tenting technique. We actually pull that hide out, and we can physically see that needle going in underneath the skin.

We also need to be careful what size of needle we use. Ask your veterinarian, but for the majority of vaccinations we're going to use a 16-gauge needle, and really no longer than 1 inch.

What I like to do is put a ⅝-inch 16-gauge needle on the product I'm using, and whenever we inject that animal, we're going to pull back out just a little bit after we fully put that needle in the animal. We're going to pull back out just a little bit and give our injection, and you can actually feel that needle is not in the meat product. Depending on the amount you're injecting into that animal, you can actually see that skin puff up just a little bit. Then we're going to remove that needle, we're going to run our hand over it and kind of spread that vaccine out a little bit to make sure it's not going to leave a residue in there.

One thing that we need to think about when we give those vaccines in the neck, we're tending to give those vaccines in a triangle or a circular pattern. We need to really think about how gravity is going to bring that vaccine underneath the skin down just a little bit, and we're probably also going to give a wormer at the same time we vaccinate those animals. So, we need to spread those vaccinations out 3, 4, 5 inches. I like to keep them in an even line across the top, so those vaccinations aren't mixing underneath the skin. If some of that wormer would come down and mix with our vaccinations, it would probably kill that vaccine.

Q: Is there a place where people can go for training? Can your veterinarian help you with that?

A: Absolutely. Your veterinarian can help you do that. Your extension professional in your county in your state, they can help you do that. Of course, there's always Beef Quality Assurance training. Each BQA training is a little different for each state. If you're not able to make it to a meeting, we also have national BQA training at *BQA.org* if that's something producers are interested in.

Editor's Note: *Hosted by Doug Medlock, the American Angus Association's* Angus Talk *radio show features conversations with industry personalities from across the country. The program is broadcast each Saturday at 10 a.m. CT on Sirius XM's Rural Radio, Channel 147. Outtakes featured here are edited.*