



137 E 28th Division Hwy
Lititz, PA 17543

717-625-4212 Local
1-800-222-4084

717-625-4554 Fax

www.agvets.com

Standard Rate Service Hours:

7 AM - 2 PM, M-F

7 AM - 12 PM, Sat.

Extended Service/Emergency:

24 hours/7 days a week

Staff

Flo Zimmerman - Morning
Communication Specialist

Kim Brendle - Pharmacy/
Shipping/Lab Manager

Jerilyn Herrick - Financial
Manager

Carolyn Martin -Pharmacy
Assistant

Justin Nolt - Office
Coordinator/P.M. Communication
Specialist

Partner Veterinarians

Brian Reed, D.V.M., M.B.A.

Douglas Scipioni, V.M.D.

Erick Stolfus, D.V.M.

Scott Tillman, M.S., D.V.M.

Associate Veterinarians

Timothy Trayer, D.V.M.

Cynthia Foulke, D.V.M.

Teri Coon, D.V.M.

Edward Fuhrman, D.V.M.

James Shissler, V.M.D.

Vaccination/Immunology Tips:

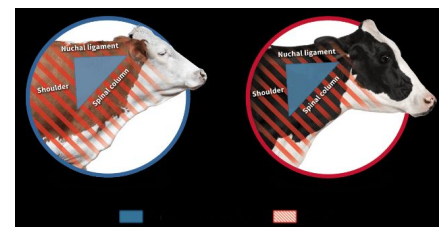
Harvest has reached completion, and with that comes changing weather conditions as we've gone from fall to winter. Many times this creates environmental and temperature stresses as more extreme fluctuations occur. Stocking density and ventilation are frequent issues as well. Respiratory disease in cattle is a frequent cause of production and economic losses. Pressure from regulatory agencies and consumers is to use the least antibiotics possible for treatment and judicious use.

Stress also occurs with shipping, and new groups entering pens. We recommend contacting your herd veterinarian to develop a vaccination protocol and preventative strategies to minimize potential losses and maintain the health and wellbeing of our herds. Don't delay, set up your consult right away!

For most cattle, beef or dairy, core vaccines would include respiratory and reproductive protection. If other disease issues are identified through examination, lab testing, or necropsies, then other vaccines may be recommended as well for specific herd challenges. There is no one size fits all, and each herd has unique challenges, so we tailor the protocol to best suit your and your herd's needs.

Here are some tips on taking care of vaccines. Many people remembered a previous meeting when it was emphasized that "vaccination doesn't equal immunization." What that means is just the act of administering a vaccination to an animal, doesn't mean she will mount an appropriate immune response and have lasting protection, in other words, immunized. Here are a few tips to make the most of going to the effort and expense of vaccinating:

1. Buy from reputable sources. Sometimes when vaccines are purchased online or stores, we've seen issues where they've been expired/out of date. Check dates and avoid buying or using expired products, or return when possible. Veterinary offices like ours are particular about ordering vaccines direct, storing and maintaining properly, and generally very competitive on prices.
2. Transport properly to your farm. Take a cooler and ice pack, or ask for one. Vaccines sitting in the truck cab or dash and not staying cool may significantly decrease the effectiveness. It's best to keep vaccine in a small cooler while in the process of vaccinating animals as well. Avoid sunlight/UV light for any length of time.
3. Store properly at your farm. Make sure your refrigerator maintains a consistent, cold enough temperature as recommended by the vaccine. However also make sure the vaccine does not become frozen, particularly if temperatures plummet over the winter. Heat or freezing are both very detrimental to vaccine stability. Also, if a refrigerator is opened constantly, door storage may not be ideal either, as the temperature will fluctuate frequently there, whereas it's more stable toward the back of the fridge.
4. Buy smaller bottles/tanks of vaccines that will get used quickly. Once opened, killed vaccines generally should be used within a month after puncture. Modified live vaccines that are mixed (liquid added to dry pellet), should be administered as quickly as possible, ideally within 2 hours. After that they should be discarded, as the vaccine is no longer viable.
5. Use a new syringe only used for that vaccine. Never use a syringe cleaned with soap or a disinfectant as these can often destroy a vaccine drawn up afterwards. Clean needles should always be used to puncture the bottle, and change needles between animals to avoid contamination or disease transmission. (Also avoid storing a vaccine bottle in the fridge with a needle in the top).
6. We've focused on vaccine handling strategies above to avoid inactivating the product, but also consider animal factors. Animals recently stressed may not be able to respond properly to vaccines, such as if just transported, or weaned. Also, animals that were on a low plane of nutrition, lacking in energy, protein, or minerals/vitamins that support immune function, may not respond well and become immunized.



-James T. Shissler, VMD

Enterotoxigenic *E. coli* in Calves

Not much can be more baffling or disheartening than finding a newborn calf, born in excellent condition with a willingness to guzzle down 3-4 quarts of colostrum, dead 24-48 hours later without much warning. While calf feeders are accustomed to treating diarrheal disease in nursing calves, the rapid onset and severity of enterotoxigenic *E. coli* can be challenging for even the most experienced producers.

E. coli is a normal inhabitant in the GI tract of virtually all mammals. This bacteria is shed in significantly large numbers in the manure, and is found throughout our farms. Many of the variants found on farms are completely harmless, and rapidly become an inhabitant of an animal's gut due to environmental exposure. However, a certain subset can be problematic, and often cause severe disease such as coliform mastitis or calf diarrhea/septic shock.

Enterotoxigenic *E. coli* (ETEC) has a very specific pattern that makes diagnosis relatively easy. Due to the unique nature of the newborn calf's stomach and its higher pH early after birth, ETEC is able to survive and migrate to the intestines, where it will then attach and begin proliferation. Rapid disease onset is often the next outcome resulting in severe diarrhea or septic shock (seen as depressed or downer calves) often leading to death. Once the calf reaches 3-4 days of age, the pH of the stomach drops significantly, killing ETEC before it can move to the intestines. Therefore, this is a disease seen almost exclusively in 1-2 day old calves, and is not a concern for cattle over 7 days of age.

Treatment of ETEC is difficult because of the rapid progression of severity and signs. However, fluid replacement, either through oral electrolytes or IV treatment is a mainstay. Antibiotics and antiinflammatories would also be prudent. If a suckle reflex is still present, milk feedings should be continued.

Because the source of ETEC is manure, and often the calf is exposed to ETEC within its first 12 hours of life, producers must look at all aspects of that timeframe to find management loopholes. In my experience, the maternity area is the most common area of exposure, and a poorly bedded or overcrowded calving pen is a significant risk factor. Secondly, poorly managed colostrum is also a concern. Colostrum must be collected cleanly and fed immediately, or cooled and stored quickly to give the calf its best start. Calf pens, bottles, nipples, and anything else the calf comes in contact with those first hours of life could all be a potential source of exposure. Beyond management changes, vaccine strategies can be utilized to prevent shedding in the dam as well as provide protection to the newborn calf.

Ultimately, if calves are dying within the first few days of life, ETEC is the likely culprit. We are happy to work with your specific herd to develop treatment and prevention strategies catered to your needs. Discuss this with your herd vet if you are concerned about ETEC in your herd.



W. Scott Tillman, MS, DVM



137 E 28th Division Hwy
Lititz, PA 17543

News:

We unfortunately regret to inform you the annual producer's meeting has been canceled for this winter. With the constantly changing conditions with the pandemic, and restrictions on travel for speakers and trade show reps, it has made planning nearly impossible. We appreciate all those who have asked, as we realize you have found value in past meetings.

We would like to welcome some new members to our office family. Carolyn Martin will be assisting Kim Brendle with duties in the pharmacy area and sterilizing surgery equipment. Also, we are excited that Justin Nolt is returning to our practice after having a successful run as a sales representative at AHI, Animal Health International. He has decided to "return home," and will be taking over Erin Pasto's former position as Office Coordinator and Afternoon Communications Specialist. Erin's last day was in November to focus on raising a family, as she and her husband are expecting their first child.

James T. Shissler, V.M.D.

If you have any suggestions or topics you would like to see in our newsletter, please let us know!

Our mission is to provide superior quality veterinary service to the clients we serve in the areas of traditional medicine and surgery, as well as related areas of farm and business management. We are dedicated to working with other industry resources to help our mutual clients meet their goals.