

Message from the President



We are constantly seeking feedback from our customers about our range of immunotherapeutics, and we are always pleased to hear that customers are satisfied. It is particularly affirming to have a customer provide a testimonial about a product, endorsing its efficacy and applicability. In the article below, you'll read a testimonial about Settle[®], our immunotherapy for the

treatment of endometritis in the mare. Dr. Blue has had consistently positive results with Settle and recommends it to others.

What is particularly heartening about Dr. Blue's testimonial is her comment, "... having a non-antibiotic therapeutic like Settle allows us to be more selective and prudent in our antibiotic dosing."

This speaks to our corporate mandate of offering alternatives to antibiotics for the treatment of animal diseases. Given the serious repercussions to both animal and human health from the overuse of antibiotics, it makes sense to choose an alternative whenever possible.

For many veterinarians, reaching for an antibiotic to treat an animal is second

nature. They've been doing it for years. Our challenge is to provide compelling evidence that our mycobacterium cell wall fraction technology can work as well as an antibiotic. This requires an ongoing investment in research studies to generate efficacy and safety data for our products.

Even with compelling research data, veterinarians often prefer to make decisions based upon their own experience with a product. With 4,391 bovine, 4,125 equine, 4,182 mixed animal, and 55,270 companion animal veterinarians in the U.S. alone, we have our work cut out for us; but we are up for the challenge! And we are grateful for the top-notch research scientists who believe in our technology and are willing to work with us to conduct studies and present/publish the resulting data.

More Data ... Plus Feedback About Settle[®]

The Gluck Equine Research Institute (University of Kentucky) recently shared data from a study showing Settle[®] improves post-partum clearance of bacteria from the uterus. This gives a better chance of breeding success and the potential for foal heat breeding.

In this study, 16 postpartum mares were divided into three treatment groups. Group 1 received two doses of Settle, one week apart, by IV injection; group 2 received one dose of Settle every three days until ovulation was detected; and group 3 received two doses of lactated Ringers solution, one week apart. The mares' reproductive tracts were assessed every 72 hours and cytology and bacterial cultures were undertaken.

Researchers concluded that Settle may improve postpartum clearance of bacteria in the uterus by increasing a variety of pro-inflammatory markers, contributing to an increase in antigen production and leading to rapid bacterial clearance.

Based on their findings, the researchers recommend that Settle be administered in a two-dose series for maximum effect - one day postpartum and one week postpartum - to assist with the elimination of bacteria that may impede future fertility on the foal heat estrus cycle.

Interestingly, some equine veterinarians have already adopted the practice of using Settle post-foaling and are very pleased with the results.

Dr. Holly Blue, Owner of Blue Blood Equine in New Zealand, says, "We routinely use Settle as a treatment for our mares. It has proven effective in treating routine uterine infections as well as a multi drug resistant uterine infection post-foaling. It also allows us to maximise our success rate for breeding at foal heat (a bonus!). We do culture and sensitivity testing when infections are suspected, and having a non-antibiotic therapeutic like Settle allows us to be more selective and prudent in our antibiotic dosing."



Dr. Blue adds, "I recommend using Settle in cases of known or suspected uterine infection, as well as post-foaling, to quickly clean up the uterus and prime the mare for more effective breeding."

Blue Blood Equine offers a boutique breeding service for mares, catering to high-risk foalings, managing low fertility mares and providing all general breeding services.

Immunocidin® Equine—Successfully Treating Sarcoid Tumors

Immunocidin® Equine is our USDA- and CFIA-approved immunotherapy for the treatment of equine sarcoid tumors.

Sarcoids are skin tumors that can occur in horses of any age. They are most common in adult Quarter Horses and other closely related breeds, but rare in Standardbreds. There are four different forms of sarcoids and these tumors are often found around the eyes, head/face, neck, chest, and shoulder, as well as at the site of old scars. It is estimated that sarcoids affect 1 in 100 horses in North America.

Here are some facts about Immunocidin Equine:

- ⇒ It is a standalone treatment that jump starts the immune system to fight sarcoid tumors
- ⇒ It is USDA- and CFIA-approved for intratumoral administration
- ⇒ Its active ingredient is mycobacterium cell wall fraction
- ⇒ It will stimulate the innate and specific immune responses, as needed, for several days and will induce apoptosis (programmed cell death) in tumor cells



images supplied by Dr. Stephanie Caston, Iowa State University

- ⇒ It is safe when administered and well-tolerated (even by older horses)
- ⇒ It is safe to use in pregnant mares

Dr. Stephanie Caston, DVM, DACVS-LA, Associate Professor, Equine Surgery, Lloyd Veterinary Medical Center, College of Veterinary Medicine, Iowa State

University recently completed a study with Immunocidin Equine. The study was focused on standardizing treatment protocols and assessing the product's efficacy and safety in the treatment of sarcoids. Dr. Caston has summarized the results and submitted them for publication in an equine veterinary journal. We'll share the publication when it is available.

Dairy Calf and Heifer Producers to Receive Amplimune Presentation

Dr. Luciano Caixeta from the University of Minnesota will be presenting "Preparing calves for successful transportation and transition to new surroundings" at the upcoming Dairy Calf and Heifer Association Annual Conference. The conference is being held in Madison, WI from April 7-9, 2020.

Health and performance of pre-weaned dairy calves have a great influence on adult life performance. Amongst the diseases that affect young dairy calves, diarrhea and pneumonia are the most prevalent and economically important.

Dr. Caixeta was the Principal Investigator in a study that evaluated the effects of Amplimune® administered around transportation on the health and performance of heifer calves during the first 60 days of life. His team hypothesized that calves receiving Amplimune would have decreased disease treatment hazard, lower weekly health scores,

decreased mortality and superior performance.

Despite the fact that the study animals were from a very well-managed herd in which there was a low overall incidence of disease, researchers saw a difference in the animals treated with Amplimune, particularly those who were treated before being transported to a grower facility.

Dr. Caixeta and his team analyzed the economics of adding Amplimune to the treatment regimen for calves, and this analysis was shared with bovine veterinarians at the American Association of Bovine Practitioners Annual Conference last September.

The analysis demonstrated that, for a weaned heifer valued at \$300, the net change in profit when using Amplimune prior to shipping was \$4.18 per animal in



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the study. Looking at the same value of heifer using the average disease incidence and mortality reported by the National Animal Health Monitoring System 2011, the net change in profit with Amplimune prior to shipping was estimated at \$9.44 per animal.

