

Message from the President



As we turn the corner from 2023 to 2024, it's an exciting time for NovaVive. Our small animal health company will celebrate its 10th anniversary in July of 2024.

This is the season when we take time to reflect on the year that will soon be behind us. It was a year of growth for NovaVive, with new customers coming

on board and new market opportunities presenting themselves.

Since our immunotherapeutic platform revolves around stimulating an animal's immune system to fight disease, we know that further growth is ahead for us as we explore the use of our technology in additional species and disease targets.

As you'll see in this newsletter, we're planning a new market launch of our equine immunotherapy for the treatment of endometritis. It takes years to acquire new regulatory approvals, and we're always grateful when we successfully achieve it.

You'll also read about some experimental uses of one of our products in zoo animals.

It's fascinating to hear about success stories in the field and we're always on the lookout for this type of information to share with you.

Our immunotherapeutics represent alternatives to traditional treatments like antimicrobials (for viral and bacterial infections) and chemotherapies (for cancer). We're proud to be able to offer such alternatives to the marketplace.

We extend our gratitude to our staff, customers and market partners and we wish you and your family a restful Christmas and healthy, happy new year.



Settle[®] is coming to Canada!

NovaVive is pleased to announce that our immunotherapy for the treatment of equine endometritis, Settle[®], has been approved for sale in Canada by the Canadian Food Inspection Agency (CFIA).

We are busily preparing for a product launch—expected in the first quarter of 2024.

Settle is also regulator-approved in the USA, Australia, New Zealand and UAE, and it is available to veterinarians in the UK through a special access program.

Settle is manufactured using the NovaVive Mycobacterium cell wall fraction (MCWF) technology. It is approved as an aid in the treatment of equine endometritis caused by *Streptococcus zooepidemicus*, the hardest to treat cause of the disease. When administered to a mare, Settle stimulates the

mare's immune system to fight the infection and/or inflammation.

In a recent research study by the Gluck Equine Research Center and Rood and Riddle Equine Hospital, Settle successfully treated endometrial cups. "To our knowledge, this is the first report of a successful treatment for degradation of endometrial cups following abortion, by hastening the natural immune response to these structures," the researchers noted. "This caused mares to return to cyclicity within a month following treatment onset, allowing for repeat attempts at a successful pregnancy within the confines of the breeding season." In the Settle-treated mares, a pre-ovulatory follicle was noted, on average, 23.4 days following treatment.

Here are some additional highlights of research data from Settle studies:



In the face of bacterial challenge with *Streptococcus zooepidemicus*, as demonstrated by Rogan *et al.*, Settle had a positive effect on bacterial load. Treatment with Settle resulted in elimination of endometritis in 70% of mares at 7 days post-ovulation.

Settle significantly reduced the magnitude of bacterial growth in the uterus (Fedorka *et al.*).

Settle has also been shown to hasten the uterine involution process when administered post-foaling, allowing the mare to be ready faster for the next breeding cycle (Fedorka *et al.*).

Wildlife World Zoo sees benefits of Amplimune



The Wildlife World Zoo & Aquarium in Litchfield Park, Arizona is a customer of ours. This facility purchases our bovine immunotherapy, Amplimune® for experimental use in birds and fish.

The veterinarian at the facility, Dr. Sharmie Johnson, says she has been using it for birds with immune system issues. “Lorikeets and turacos have a predilection for developing *E. coli* infections. It appears to help them,” she says. “I don’t see as many deaths from that organism in these species since starting it.” Dr. Johnson has zoo employees add the product to the birds’ water once a week.



Dr. Johnson has done research on aspergillosis in birds. Aspergillosis is a soil-borne fungus that can also be transferred by air. It can affect all types of birds, but is particularly common in birds of prey, waterfowl and penguins. It’s an expensive disease to treat and can be deadly. Dr. Johnson has had her research into an aspergillosis treatment option published in the *American Journal of Veterinary*

Research. One of her experimental uses of Amplimune was in the birds at the zoo, alongside antifungal drugs.

Further, Dr. Johnson has injected koi with Amplimune to treat skin sarcomas following cryotherapy for the tumors. She cannot say if our product definitively helped the koi, but she observed no reactions in the fish after treatment.

Although Amplimune is regulator-approved (USA and Canada) as a treatment for diarrhea caused by *E. coli* in neonatal calves, licensed veterinarians are able to use it and our other products experimentally in other species if they are comfortable taking on any associated risk. Given that our technology acts as an immune stimulant, many veterinarians are interested in trying it to treat various illnesses that a fully functioning immune system would address. These include bacterial, viral and fungal infections, as well as various cancers.

Two NovaVive products featured at U.S. equine convention

The American Association of Equine Practitioners (AAEP) held its Annual Convention from November 29th to December 3rd in San Diego. This major annual event draws more than 3,000 equine veterinarians and practitioners from across the U.S. and beyond.

NovaVive was pleased to note that two of its products were featured in presentations at this event.

Dr. Carleigh Fedorka discussed “*How to bring a mare into estrus following pregnancy loss*”, featuring her research into the use of NovaVive’s **Settle** to treat endometrial cups.

Later the same morning, Dr. Jan Doelle discussed “*Using cell wall fraction of Mycobacterium phlei to treat periorbital sarcoids*”. Dr. Doelle demonstrated how our **Immunocidin Equine** works for this indication.



Carleigh Fedorka



Jan Doelle

