



CERVID SOLUTIONS

EVOLVE YOUR HERD





What is Cervid Solutions?

Cervid Solutions, LLC is a Herd Health Management Company built on decades of research and dedication. With the introduction of LifeCycles our commitment is to provide a resource where serious professionals in the Cervid industry can enroll and retrieve solutions. LifeCycles Members unlock the largest resource library of tools resulting in enhanced herd health.

Two words; professional commitment. As a LifeCycles Member (LCM), you are committing to the health of your animals and the long-term prosperity of your operation. Becoming an LCM symbolizes your dedication to your animal's health, providing access to valuable information, products, and discounts.

Decades in the making...

Cervid Farming is hard.

We have learned from our mistakes.

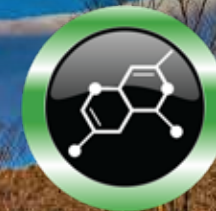
Education is never ending.

Let our experience be your guide.

EVOLVE YOUR HERD

"The following is a sample compilation of services, products, and education components found within the Cervid Solutions brand. Our driving mission is to be the definitive resource for all things deer. Our work is never done!"

— Josh Newton, The Deer Wizard



Vaccines

Evolve Your Herd and enroll as a LifeCycles Member today.

Benefits of Membership

- Vaccine Info and Protocols
- Fawning
- Reproduction
- Nutrition
- Remote Delivery and Sedation
- Diagnostics
- Pen Management and Handling Facilities
- State and National Regulatory Review
- Chronic Wasting Disease Research and Education
- Genetics
- Marketing and Advertising



Vaccine Info and Protocols

Understanding the basis for why we vaccinate is important. Described in this section are full length articles on vaccine recommendations and guidelines, autogenous biologics, handling and storage of vaccines, as well as detailed descriptions of each bacteria isolated in our vaccine products.

Fawning

Having a productive and healthy fawn crop is vital to the success of your operation. Over decades of development, we have compiled resources providing valuable insight into what works best when it comes to fawning. Our resources provided offer guidance on fawn care from birth to weaning.

Reproduction

Reproduction is a key component in the propagation of livestock, it is a metric of success. Resources include species-specific gestation charts for Whitetail Deer, Sitka Deer, Red Deer, Mule Deer, Fallow deer, Elk and Axis, as well as education on artificial insemination, embryo transfer, semen collection and natural breeding.

Nutrition

Our Cervid Nutrition area consists of information on the unique aspects of deer and requirements for a well-rounded deer diet. Needs amongst deer vary greatly depending on their stage of life, species and season. We have resources to assist you in creating a solid nutritional plan for your deer.

Remote Delivery and Sedation

Cervid Solutions vaccine products can be delivered remotely. Exclusively using Pneu-Dart remote delivery systems allows us to rely on their more than 50 years of expertise in product development and manufacturing. Pneu-Dart has the lightest and most accurate Remote Delivery Device on the market. Resources and charts for chemical immobilization, sedation and handling are also within the membership area.

Pen Management and Handling Facilities

Handling facilities are a key part of any health program allowing for bulk administration of preventive care items such as Cervid Solutions vaccines. A full-length feature video of our “Handling Facility” is available for review within your Life-Cycles dashboard. Also, onsite farm consultation of new and existing facilities, design review and planning is available upon request.



Diagnostics

Understanding diagnostics and the pathogens causing disease in cervid can be challenging. Most research on these disease-causing bacteria are focused on cattle or other farmed animals. Cervid Solutions has more than two decades of experience working with deer and has put considerable time and effort into understanding the bacteria that cause disease. Cervid Solutions offers consultation and instructions on obtaining samples from animals and guidance on sending those samples in for diagnostic testing and evaluation.

"The most valuable animal on your farm is the one that just died."

– Unknown

State and National Regulatory Review

Understanding your state and national regulatory environment is a large component of developing a long-term strategy for success. Having the resources for review of these items in one place is helpful in the review and planning process.

Chronic Wasting Disease Research and Education

We offer a comprehensive library of CWD videos, articles, podcasts and presentations focused on CWD along with its biologic and political impacts.

Genetics

Review of animals' pedigree, performance and production are essential for success of any Cervid Livestock operation. We offer an exploratory process of developing long-term plans revolving around your genetic goals and the use of DNA analysis.

Marketing and Advertising

In addition to health management and all that goes with maintaining your herd, whatever your goals may be, the business side of cervid farming is of key importance. Marketing and advertising resources are provided to assist you with making your goals year after year.

Newsletter

The LifeCycles Newsletter released monthly contains exclusive content for all things cervid. From articles to videos, and also access to North American Deer Talk +. The Newsletter is emailed directly to you and stored in the Newsletter Archives for future retrieval.



The Pillars of Success – Animal Health

Let's start this off by saying that I am not a veterinarian; I have no formal education in "deer management" and I am pretty stubborn. Sound familiar? Yep! That's nearly every deer famer and rancher I know.

When I reflect on the journey that I know many have taken, one can't help but wonder why we choose to reinvent the wheel when it comes to raising deer. People have propagated livestock for thousands of years and in today's world, of limitless technology, you would think resources would be available for us to use on our path.

As I come into my 24th year of "deer (real) world education," I would like to share what I feel are some of the "Pillars of Success" relating to general animal health. This is intended to be big picture stuff, not so much the nuanced detail of what separates the good from the great. We can simply look to the cattle, sheep, goat and other livestock industries for the recipe. If we adapt these ideas and concepts to fit the deer operations we run, we can be successful.

Pillar 1- "Pen Density"

Let's face it... you probably have too many deer. Why must we feel the need to cram so many animals into a confined space? As time moves forward, I have come to realize that limiting the number of deer on any given pasture is the most important thing in maintaining healthy animals. Healthy animals are success! For the vast majority of us, creating fawns (the next generation) is the most profitable way to extract income from your farm.

What is a good starting point for answering the question, "How many deer is too many?" Well, mortality and morbidity rates are an easy and known calculation. The animals that express this the most are fawns. Why? Because they are entering the world at birth with a naïve immune system and, generally speaking have the highest chance of getting sick or dying. As a rule, I like to see 4-6 adult does per acre, pre-fawning, on (if at all possible) fresh, winter-rested pastures or at least minimally impacted pasture. You can start with higher animal numbers, but my experience is that when I violate these rules I pay the price.

I could go on about this more, however, I want to explore another important topic...

Pillar 2- "Vaccination Program"

I know... this coming from a guy who sells vaccines! Let me share the short version of my story with you and then you may draw your own conclusions. For the first 10 years of managing a whitetail herd I was quite "anti-vax." I said things like, "These are deer; they live in the wild just fine." And my favorite was, "My deer don't really get sick much and, if they do, I just give them some meds." As time went on, and I had more animals on the same piece of ground for years and years, my bacterial problems slowly grew along with my herd inventory. I decided to add some commercial cattle vaccines to my health program (which really was far from defined at that point in time) and I was less than satisfied with the results.

We wonder why these vaccines do not work! “Such and such farmer,” with way more experience than myself, uses them and he told me they work great. A simple review with my herd-vet about what coverage these vaccines provided simply did not match up with the bacteria found in our necropsy reports (sampling and diagnostics is a whole other can of beans). So what options are we left with knowing the commercial vaccines are not providing adequate coverage for the most common bacteria found? Enter the autogenous biologic. Autogenous biologics are custom vaccines, consisting of herd specific (homologous) antigens (i.e., these are made for cervid!).

The results of just adding this product showed tremendous improvement in the overall mortality rates we were experiencing, though morbidity (how many antibiotics we need to administer due to sick animals) remained above our threshold. Over the course of the next decade we culled, reduced imports of new animals, continued twice-per-year vaccine administration, and finally implemented strict “Pillar 1” adherence. The results have been outstanding! But we were fortunate to start with a great base prior to Pillar 1 and Pillar 2...

Pillar 3- “Nutrition”

I am jaded, discussing nutrition as a topic, simply for the fact that my feed program has been unchanged for about 15 years and the quality of what we feed is top-grade and CONSISTENT. The whitetail deer is incredibly adaptive to many environments and feed types and are a true success story in and of themselves in North America with present populations of around 35 million animals when just 100 years ago they were few in number. The whitetail deer can and does have specific nutritional requirements to thrive, however, as Man involves himself he tends to think that more is better... like 20+ percent protein levels... or 12+ percent fat... and so on.

My suggestion about feed is really simple – keep it simple, balanced, and buy the best you can. As the largest input, not only on the balance sheet but physically into the animal, feed plays a key role in herd health. It is a foundational item and input that sets the stage for genetic expression and health.

In hindsight, I wish these pillars were implemented into my day-to-day operations long ago and all at the same time. But sharing them with you today gives me great optimism about what the future of the cervid industry has in store.



Achieving Immunity

Successful vaccination programs utilize both the administration of correct pharmaceutical products and the knowledge and science of immunology. Disease protection is based on several factors, the cervid environment, proper nutrition, genetics and housing. A vaccination protocol is always a key to disease prevention and a basic understanding of immunity is helpful.

It is important to remember that fawns, when born, have no immune system in place. This happens over time and is a “learned” process. The process happens when animals are exposed to pathogens within the environment, thus antibodies are created and then “stored” in the body for a later time. This process of immunity is done in two ways.

There are two forms of immunity; active and passive.

With active immunity the body produces antibodies in response to infection or vaccination. When following a vaccination protocol of administration to pregnant does you are actively causing antibodies to be produced in the doe.

Passive immunity occurs when antibodies are acquired from colostrum (first milk) or anti-toxins. Anti-toxins are antibodies that bind to the toxin itself (not the bacterium producing it) and either cause its rapid removal or block its active site. The duration of immunity in the fawn is brief, only weeks to months, but critical. This immunity passed to the fawn is important to the health of young animals and is most commonly acquired through colostrum.

A recommended time frame of vaccinating your does to ensure passive immunity to fawns is 50-60 days prior to fawning and a second dose 14- 28 days after the first administration for the initial use of the vaccine. To maintain immunity in the doe, it is recommended to administer a booster dose in the fall and a booster in the spring, 30 days prior to fawning.

Disclaimer

All materials and related information within this brochure are recommendations as such the content contained within is to be used for informational purposes only. The content is not intended for use as a replacement of professional medical advice from your herd veterinarian. Always seek advice from your veterinarian and maintain a current and up to date VCPR.

Why use an Autogenous Biologic

Cervid Solutions custom vaccines are Autogenous biologics, consisting of herd specific (homologous) antigens. Under federal regulation, they are manufactured from bacterial or viral strains isolated in conjunction with animal disease. The disease-causing microorganisms are grown in culture, killed, and mixed with an adjuvant. An adjuvant is simply an immunological agent that enhances the immune response to a vaccine. Autogenous Biologics are regulated by the USDA's Center for Veterinary Biologics according to the Virus-Serum-Toxin Act, 9CFR 113.113. State veterinarians have regulatory oversight.

Autogenous biologics can be an important component in managing herd health. They are extremely helpful when a commercial vaccine is not available for specific bacteria. Autogenous products are also valuable if antigen variation has occurred and is outside the spectrum protection of commercial products.

Vaccine

Bottle size: 100ml or 50 doses

Dosage: 2cc

Cervid Solutions promotes two custom vaccines. Developed in conjunction with one of the leading Cervid veterinary practices in the country, Applied Reproductive Concepts, ARC.

Cervid Solutions vaccines help manage the risk of infection from a wide range of pathogens found throughout the Cervid industry. Cervid Livestock operators will attest the implementation of our vaccines into their program delivered unprecedented health.



PV3

Protecting your Cervid From:

Pneumonia | Lumpy Jaw | Foot Rot | Abscesses

Now Covering:

Fusobacterium (1), Trueperella pyogenes (1), Pasteurella (2), Bibersteinia trehalosi (1), Mycoplasma bovis (2), Mycoplasma ovipneumoniae (1)
Industry leading multivalent Mycoplasma coverage.



EV1

Protecting your Cervid From:

Scours | Diarrhea | Bloat

Now Covering:

E-coli (4), Clostridia Type A (1)
EV1 is our five-isolate vaccine developed to manage digestive tract issues caused by E-coli and Clostridia Type A.



Cervid Solutions-Vaccination Schedule

Spring:

New to vaccination program

Bred does:

- 2cc - 60 days prior to fawning
- 2cc - Booster, 3-6 weeks after dose 1

Males: (prior to antler growth)

- 2cc - Anytime between February 1st to April 1st
- 2cc - Booster, 3-6 weeks after first dose

Already on the Cervid Solutions program

Bred does:

- 2cc - 30-45 days prior to fawning

Males: (prior to antler growth)

- 2cc - Anytime between February 1st to April 1st

Fall:

New to vaccination program

Females:

- 2cc - at weaning of fawns/calves or 3-6 weeks prior to CIDR insertion
- 2cc - Booster 3-6 weeks after first dose or at CIDR insertion

Males:

- 2cc - After antler growing season and prior to breeding
- 2cc - Booster 3-6 weeks after first dose

Fawns: prior to 6 months old - **MUST READ** - Assessing health of fawns/calves prior to vaccination

- 2cc - 3 weeks prior to weaning
- 2cc - Booster upon weaning (Physical Separation from Mom)

Already on the Cervid Solutions program

Females:

- 2cc - Upon fawn weaning/separation for breeding or CIDR insertion for A.I.

Males:

- 2cc - After antler growing season and prior to breeding (September/October)

Assessing health of fawns/calves prior to vaccination

Always consult with your herd veterinarian on the health of your fawn/calf and what supplements, worming, medications, and vaccinations they may need. This may even be very specific to your geographic area.

Our recommendations are a case-by-case analysis. This means each fawn/calf is evaluated on its individual merits prior to administration. This should happen several weeks prior to weaning.

Here are some questions to help you assess your fawn/calf:

- Has your fawn/calf's health been challenged?
- Have they dealt with chronic issues throughout the summer?
- Specifically, have they been dealing with health issues 4 weeks prior to weaning and what are the symptoms and what have the treatments been?

If your fawn/calf has been treated with antibiotics due to illness or has struggled prior to weaning, it may be wise, alongside consultation with your veterinarian, to provide a 1cc dose of vaccines or not vaccinate at all.

If your fawn/calf has had no health issues, the 2cc standard dose is warranted.

Taking the whole herd's overall health into consideration:

It is also important to assess your overall herd health at the time of weaning and if you have multiple animals with chronic symptoms and clinical illness. There may be something on your ranch that needs to be dealt with. As discussed previously, we always recommend striving for the three pillars of success on your ranch and pillar # 1, proper pen density, is of the utmost importance in maintaining a healthy herd.

- Healthy, robust fawn/calf.
- Have not dealt with illness 4 weeks prior to weaning.
 - 2cc-3 weeks prior to weaning
 - 2cc-Booster upon weaning (physical separation from Mom)
- Fawn/calf that has had challenged health through the summer.
- Treated recently or within 4 weeks prior to vaccination.
- Symptomatic with clinical illness
 - 1cc-3 weeks prior to weaning or no vaccination
 - 1cc- Booster at time of weaning (physical separation from Mom) or no vaccination

*Always consult with your herd veterinarian on the health of your fawn and for best practice.

What is Open Ordering?

“Open Ordering” is a benefit for existing members and all new enrollees in LifeCycles Membership.

This program is designed to ensure two things;

- adequate inventory supply
- ample time for NAP (Non-Adjacent paperwork, regulatory)

“Open Ordering” occurs two times a year.

Fall Open Ordering (Nov/Dec)

- 50% deposit is required
- Balance due upon shipment, prior to Spring administration of vaccine

Spring Open Ordering (May)

- 50% deposit is required
- Balance due upon shipment, prior to weaning/Fall administration of vaccine

Benefits of “Open Ordering”

- Substantial cost savings
- Inventory management (vaccine stock)
- Consultation with herd Vet promoting a robust VCPR
- Shipment of vaccine product prior to scheduled utilization.

Due to limited quantity and unique composition of our products, Cervid Solutions accepts only a select number of new clients on a yearly basis. We encourage new clients to apply for vaccine service requests within the “Open Ordering” timeframe.

Pre-Weaning- A different way!

Weaning is a time of year that can increase stress levels in your fawns causing morbidity and mortality in severe cases. This can be costly long term as your fawn inventory plays a significant role in future breeding options as well as consistent revenue streams.

Traditionally whitetail deer producers wean fawns between the ages of 3-4 months. This is a good time to handle animals as the weather (temperature) is changing in the northern regions of the country and the breeding season is right around the corner. During this time period, does are physically limiting the amount of milk to their offspring and the fawns themselves have increased their consumption of grain and forage. They no longer need any milk from the doe to survive or flourish.

When we think of weaning in mother raised animals, conventional practices have always taught us to “pull” or physically separate fawns from their mothers and move them to separate pastures. This has been a long-standing practice for many farmers. At this time of weaning, vaccines, vitamins, minerals, pastes, antibiotics, wormers etc. have and can be administered. While I do not oppose this method, I have experienced a better way.

As I mentioned earlier, stress levels increase greatly at this physical weaning time when animals are taken from their mothers and placed in separate pastures. Many of these fawns are being handled for the first time outside of the initial protocols from birth. To more effectively manage this stress and potential onset of bacterial infection, I would strongly recommend that you consider the method of handling fawns 3 weeks prior to traditional weaning and implementing preventative medicine programs at this time...In other words, give all vaccine shots to your fawns three weeks prior to your physical separation.

By doing this we are preparing the fawns for the stresses of weaning. As mentioned previously, the physical separation of weaning creates stress. We know that stress suppresses immune responses and consequently will suppress the fawn’s ability to maximally respond to vaccine. When we vaccinate 3 weeks prior to weaning, we are priming the immune system so that the fawns can optimally respond to the booster vaccination at the time of weaning approximately 3 weeks later. This approach enables the fawn to develop a foundation of immunity that should be protective for 6 months to 1 year when applied with other management techniques.

It has been thought that many bacterial problems start in the gut and then transfer into the body during stressful periods when immune system is suppressed. It is common for weaned fawns to reduce their intake of feed during the days following weaning. These are the conditions that can sometimes facilitate bacterial transfer. If we can have an immune system response on board through vaccination prior to physical weaning, it is logical to assume the problems associated with weaning can be reduced greatly. Probiotic regimens can be implemented prior to weaning that provide beneficial bacteria loads that promote rumen health and help to reduce this risk in conjunction with vaccination.



ELK

Cervid Solutions has positioned itself as the industry leader in developing disease prevention strategies and products for the Elk market. Through years of experience and working with top-tier elk ranches around the country our products and services can **Evolve Your Herd**. Contact our office today to learn more or visit our website at www.cervidsolutions.com



Vaccines



Photo courtesy of Cedar Breaks Ranch

MULE DEER

Cervid Solutions has positioned itself as the industry leader in developing disease prevention strategies and products for the Mule Deer market. Through years of experience and working with top-tier Mule Deer ranches around the country our products and services can **Evolve Your Herd**. Contact our office today to learn more or visit our website at www.cervidsolutions.com



Vaccines



For decades Josh Newton, Operations Manager at Cervid Solutions LLC, has immersed himself into whitetail deer. His captivation with cervid has developed into a platform used across the deer industry. It is considered by many the definitive resource for herd health management.

His never-ending drive for excellence fuels his daily commitment to the private deer industry. Josh continues to develop new and innovative concepts around whitetail deer management and promotion and asks that you join him on his journey through Cervid Solutions.



Follow us on our various Social platforms!

We have content for everyone to enjoy from fawns, huge bucks, pasture management, fencing, DNA sampling, remote delivery, seasonal advice, deer handling and more. Cervid Solutions shares it all! Subscribe, like and follow!

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Over 100+ Episodes

NORTH AMERICAN DEER TALK

North American Deer Talk – The exploration of ideas and discussion about private deer management, industry news, advocacy efforts and so much more. Join our growing community of people who listen to our podcast or have subscribed to our YouTube channel and watch the show. With more than 16,000 downloads on the podcast and 165,000 Youtube views and growing, find out what you have been missing! Inquire about sponsorship opportunities.

