



FOOTROT **(*Fusobacterium necrophorum*)** **NEW SOLUTIONS TO ONGOING PROBLEMS**

Nearly 20 percent of all diagnosed lameness in cattle is caused by Interdigital phlegmon, commonly known as Footrot⁴, caused by *Fusobacterium necrophorum*. Once *F. necrophorum* gains entrance to foot tissues via a skin defect, infection of the soft tissue of the interdigital space is quickly established. If left untreated, joints may eventually be affected¹.

THE CONDITION CAN LEAD TO SIGNIFICANT ECONOMIC LOSSES TO CATTLEMEN, DUE TO FACTORS SUCH AS:

- Reduced feed intake
- Loss of body condition
- Reduced resistance to infectious diseases
- Treatment costs
- Reduced reproductive performance/reluctance to breed (bulls)
- Salvage slaughter of chronic animals
- Bullying of lame animals³

Footrot is difficult to prevent. The traditional method of iodine in the feed has produced questionable results, as the level that is approved for use in feed is not considered to be therapeutic, and higher levels can interfere with immune function tests². In order for treatment to be successful, the ailment must be caught early. Treatment can be labor-intensive and may involve removal of infected tissues or even claw amputation in severe cases⁴.

A more severe form of the disease, called "Super foot-rot," is characterized by more rapid onset, extreme necrosis and erosion of interdigital space, and resistance to treatment¹.

THE CAMBRIDGE SOLUTION

Autogenous vaccines from Cambridge Technologies employ the latest in diagnostic and production technology to create a product targeting the disease-causing agents in the affected herd(s). Our industry-leading molecular diagnostics, including metagenomics and next-generation sequencing, identify the specific threats and antigens that need to be included in the product. Then, the experienced production team can formulate and manufacture a vaccine customized to the needs of each individual customer, including antigen concentration, multiple adjuvant choices, dose sizes, and the option of SoliDose[®] implants.



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WHY AUTOGENOUS?

SPECIFIC: Autogenous vaccines from Cambridge Technologies are the most targeted, science-driven solution available. The vaccines will be built around the disease strains that are identified as potential threats to the herd in question.

SPEED AND FLEXIBILITY: The nature of autogenous products means a speedy turnaround, so that emerging threats can be dealt with in a timely fashion. Should a new strain or agent emerge, future manufacturing runs of the autogenous product can be altered to include the new threat.

ANTIBIOTIC STEWARDSHIP: In the past, the majority of BRD cases were treated with antibiotics⁴. However, the recent implementation of FDA guidance 209 and 213 along with the expansion of the Veterinary Feed Directive has created a need for an alternative to managing animal health. Autogenous vaccines offer veterinarians and their clients a flexible management tool to counter emerging and evolving diseases.

SERVICE AND SOLUTIONS: The customer and technical service at Cambridge Technologies extends beyond the vaccine bottle. Our experienced team partners with veterinarians and cattlemen through every step of the process, from initial diagnostics through product testing and shipment, and continued monitoring moving forward.

SOURCES:

1. American Association of Bovine Practitioners. AABP Fact Sheet: Interdigital Phlegmon (Foot Rot). <http://www.aabp.org/Members/resources/AABP%20Footrot.pdf>. Revised March, 2016 Accessed July 24, 2017.
2. Griffin, D. Lameness. <http://www.beefusa.org/CMDocs/BeefUSA/resources/CC2011-Lameness-Griffin.pdf>. Accessed July 24, 2017.
3. Greenough, P. Health Management: Lameness in Feedlot Cattle. [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/beef11731](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/beef11731). Updated October, 2011. Accessed July 24, 2017.
4. Step, D, Whitworth, B, Giedt, E, Lalman, D. Foot Rot in Cattle. <http://pods.dasn.okstate.edu/docshare/dsweb/Get/Document-2023/ANSI-3355web2015.pdf>. 2015. Accessed July 24, 2017.



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