

Necrotic Enteritis % Mortality & Lesion Scores

Novela ECL reduced (P < 0.05) intestinal lesion scores compared to the challenge control and showed a numerical reduction in NE-related mortality similar to BMD.

Treatment	% NE Mortality	NE Lesion Score
No Additive: No Challenge	0.44 <sup>b</sup>	0.037 <sup>c</sup>
No Additive: Challenge	2.44 <sup>a</sup>	1.000 <sup>a</sup>
Novela ECL	1.78 <sup>a,b</sup>	0.520 <sup>b</sup>
BMD	1.33 <sup>a,b</sup>	0.446 <sup>b</sup>

ABOUT UNITED ANIMAL HEALTH

Scientifically Better

United Animal Health started as a regional swine nutrition company in 1956, but our aspirations were always bigger. We believed that with a commitment to providing the best answer to protein producers, we could expand to serve all species of protein producers around the globe. Over the last 65+ years, we've transformed into a multinational ag-biosciences enterprise. We are innovators of animal science and we strive to impact the health of animals using the least amount of resources. We offer scientifically better solutions that are planet responsible.

Microbial Discovery & Innovation

We are one of a handful of companies in the United States that owns the fermentation tanks it uses to grow microbials. From selection of the strain to testing of the finished product, each step is done by us.

All statements are based on independent trials conducted by or in conjunction with United Animal Health. Some statements may not be applicable in all regions.



322 S Main Street Sheridan, IN 46069 U.S.A. | [UnitedAnH.com](https://UnitedAnH.com)



A MAJORITY OF THE TIME, THERE'S MORE THAN ONE PATHOGEN CAUSING THE PROBLEM.

Purposely selected multi-stain Bacillus DFM for a targeted approach.



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# Novela<sup>®</sup> ECL

## The Problem

The majority of the time, there's more than one pathogen detected when there are clinical enteric signs. It is the interactions of multiple pathogens that creates complex disease challenges, not just the presence or absence of a single pathogen.

## WHAT DOES THIS COST YOU?

- Increased morbidity
- Increased early & total mortality
- Increased costs of medication treatments
- Labor challenges treating sick birds
- NAE/ABF/non-human antibiotic use challenges in treating, limited options
- Processing plant whole bird condemnation



## What Is Novela ECL?

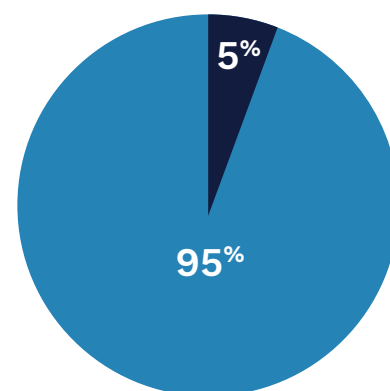
- Novela ECL is a multiple Bacillus strain DFM selected from the intestinal mucosa of high performing monogastrics. In addition to their ability to colonize, these *Bacillus* strains were selected for a wide range of functional characteristics, such as antimicrobial capabilities, immunomodulation, and ability to produce enzymes.

## What does Novela ECL do?

- Novela ECL was designed to target pathogenic *E. coli* and *Clostridium* to knock down pathogen loads while modulating the bird's immune response for health challenges.
- Novela ECL has also shown effectiveness against Staphylococcus & Enterococcus.

## Novela ECL offers effective pathogen coverage to support the birds health.

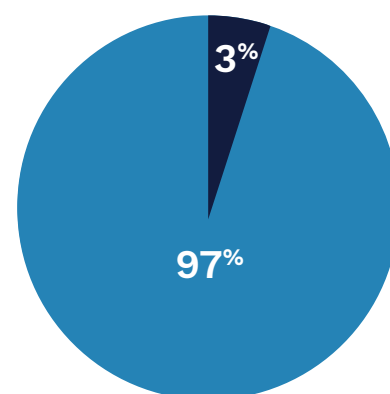
*E. coli* Inhibition Summary<sup>1</sup>



■ % *E. coli* not inhibited by at least one *Bacillus* strain  
■ % *E. coli* inhibited by at least one *Bacillus* strain

<sup>1</sup>Based on data from 13 complexes, 45 farms, and 417 isolates

*C. perfringens* Inhibition Summary<sup>2</sup>

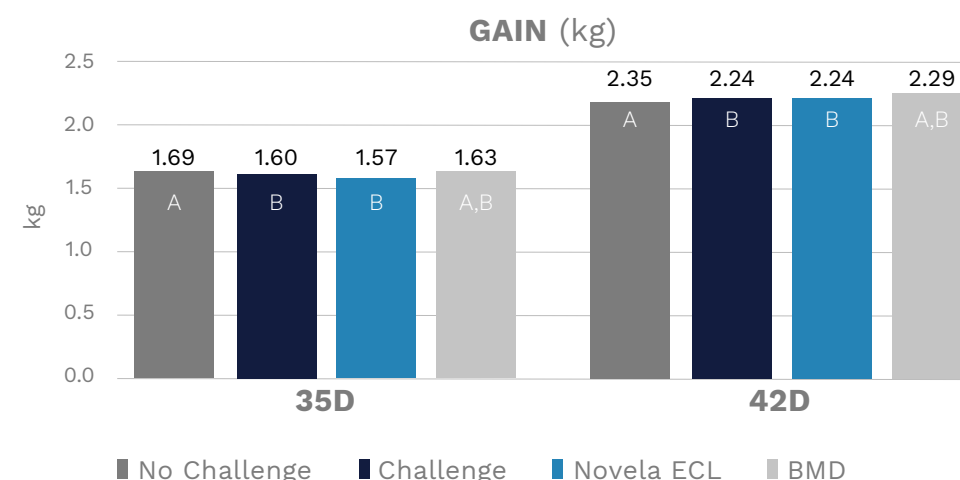


■ % *C. perfringens* not inhibited by at least one *Bacillus* strain  
■ % *C. perfringens* inhibited by at least one *Bacillus* strain

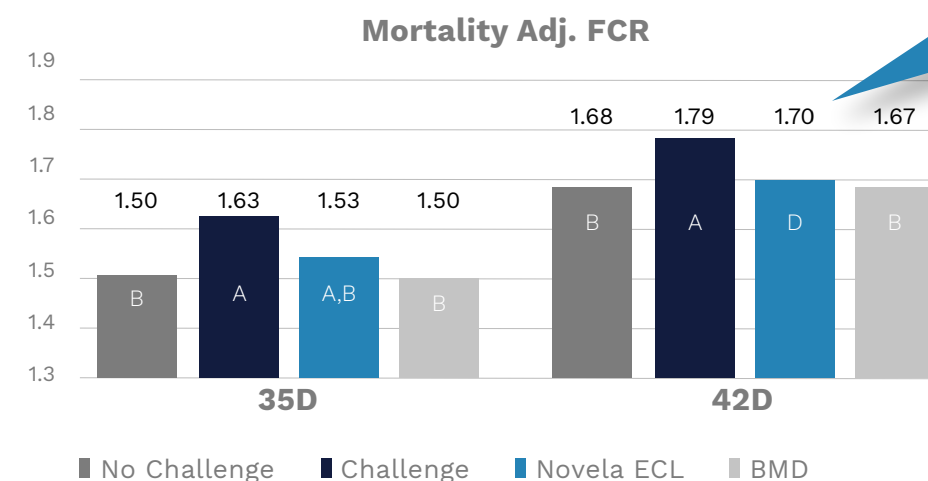
<sup>2</sup>Based on data from 12 complexes, 34 farms, and 278 isolates

## Effect of Novela ECL vs. BMD in Broiler Feed to Control *C. perfringens* Induced Necrotic Enteritis Floor Pen Southern Poultry Research Trial (42 days)

- Treatments:
  - No Challenge: No additive
  - Challenge Control: No additive
  - Novela ECL (100 ppm)
  - BMD (55 ppm)
- Coccidia vaccine was administered at one (1) dose per bird by coarse spray for all treatments
- All treatments, except the negative control, had *Clostridium perfringens* added in water at a dose of approximately 1x10<sup>8</sup> CFU/mL after feed & water withdrawal; four (4) & two (2) hours respectively on days 18, 19, 20
- Reused litter at placement



## Novela ECL Improved FCR by 9 Points Compared to The Challenge Control at 42 days (P<0.05)



**9 POINT FCR IMPROVEMENT**

