ENTEROSURE™

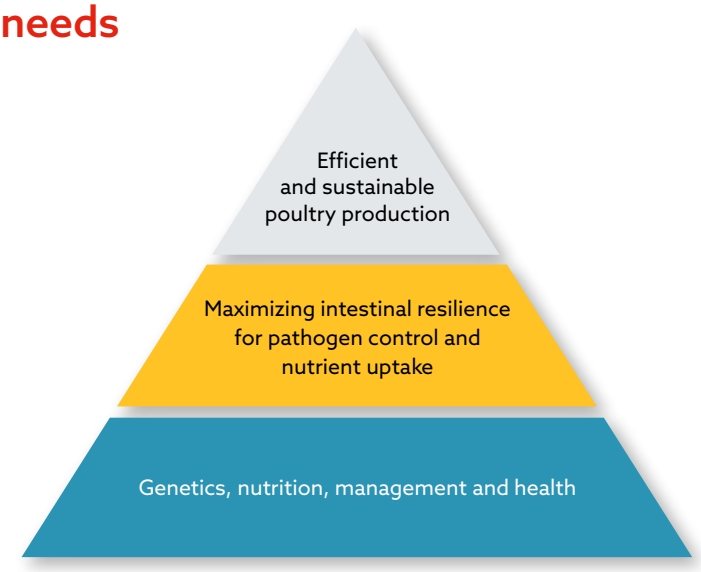
Driving Intestinal Resilience

KEMIN® INTESTINAL HEALTH

Poultry producers' hierarchy of needs

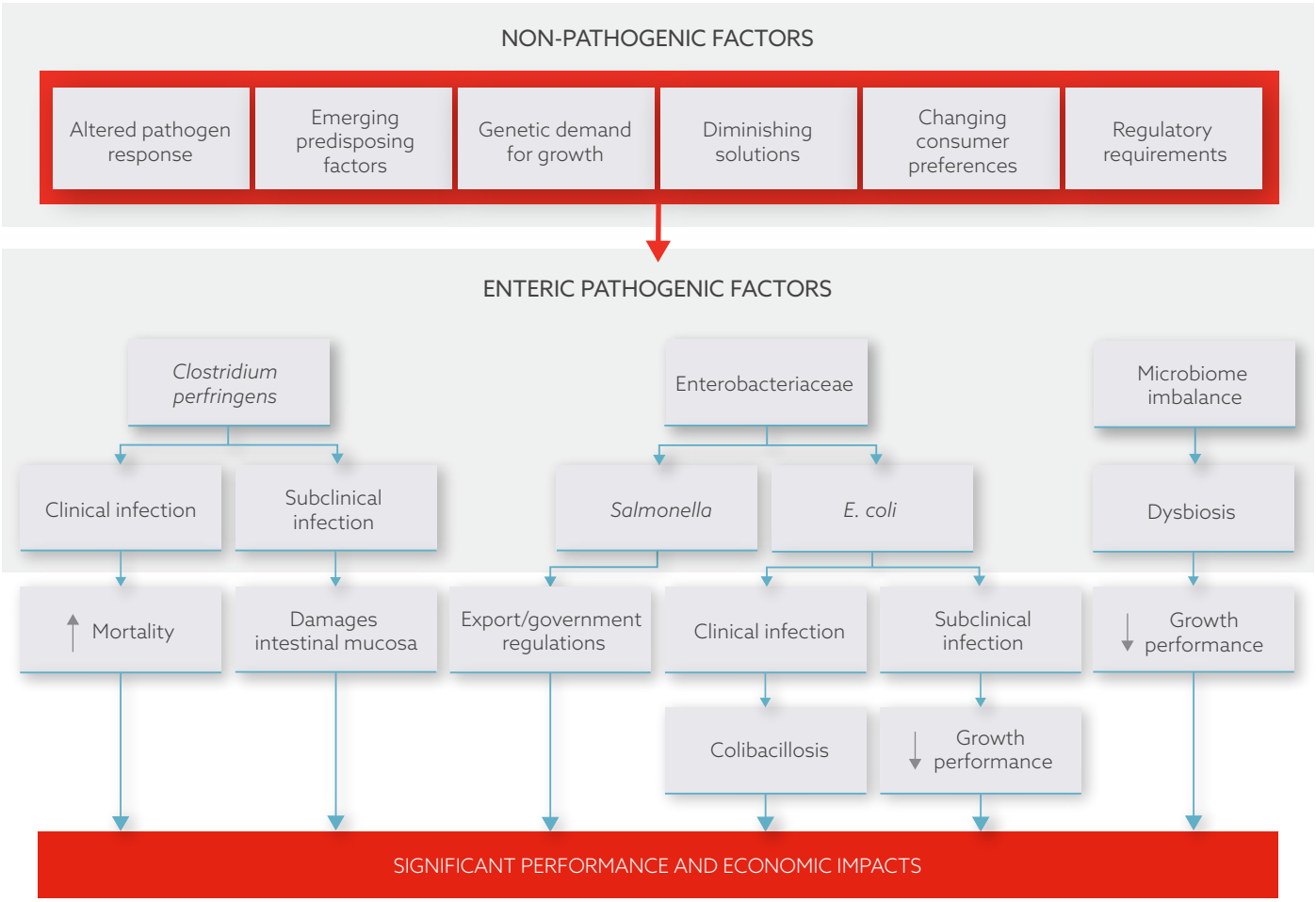
World poultry meat production soared from 9 MMT to 132 MMT in the last 50 years and is still estimated to grow. This growth in poultry production can be more efficient and sustainable in terms of economic, environmental and people's needs.

Intestinal resilience is one of the most crucial factors within the hierarchy of needs, as up to 80% of dietary antimicrobial inputs go through the gastrointestinal system. Therefore, achieving intestinal resilience is a vital step in poultry production.



Persistent challenges to enteric health

Poultry producers face significant performance and economic impacts due to the prevalent nature of enteric pathogens as well as multifaceted nonpathogenic factors. In addition, there is a disparity between the current antimicrobial products and their expected performance. These challenges call for an effective and comprehensive solution to cater to the unmet needs of the poultry producers.



ENTEROSURE™

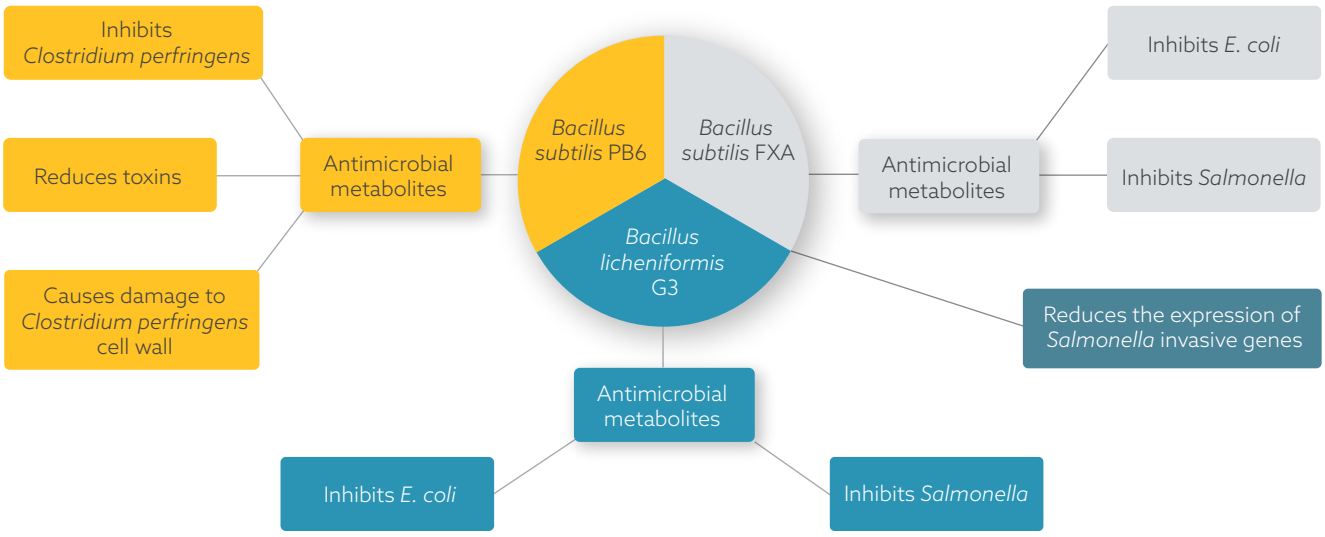
Driving Intestinal Resilience

ENTEROSURE™ is a novel active microbial solution developed through many years of intense research. It drives the intestinal resilience of animals by directly inhibiting and managing the growth of specific pathogenic bacteria and promoting, restoring and maintaining a healthy microbiome. In this way, ENTEROSURE™ addresses intestinal health challenges, improves animal productivity, and helps animal producers produce profitable, efficient, and sustainable protein to meet the industry's demand.

Gram-positive enteric pathogen	Gram-negative enteric pathogen	Performance and ROI
"A stand-alone solution" for *Clostridium perfringens* induced enteritis management.	Leverages existing enteric *E. coli* and *Salmonella* spp. management.	Delivers a minimum of 4 points FCR and 50 g body weight, with 4 times the minimum economic return on investment.

Mode of action

ENTEROSURE™ is a proprietary blend of probiotic *Bacillus* strains that secretes antimicrobial metabolites and quorum quenching molecules to directly inhibit and manage the growth of specific pathogenic bacteria and promote, restore and maintain a healthy microbiome, enabling the product to manage intestinal health challenges and improve animal productivity.



Features

ENTEROSURE™ is for animal production professionals who want to manage intestinal health challenges such as pathogenic bacterial outbreaks and dysbacteriosis and improve animal productivity.

ENTEROSURE™ provides a proprietary blend of probiotic *Bacillus* strains that directly inhibits the growth of pathogenic bacteria such as *Clostridium perfringens* and *E. coli*.

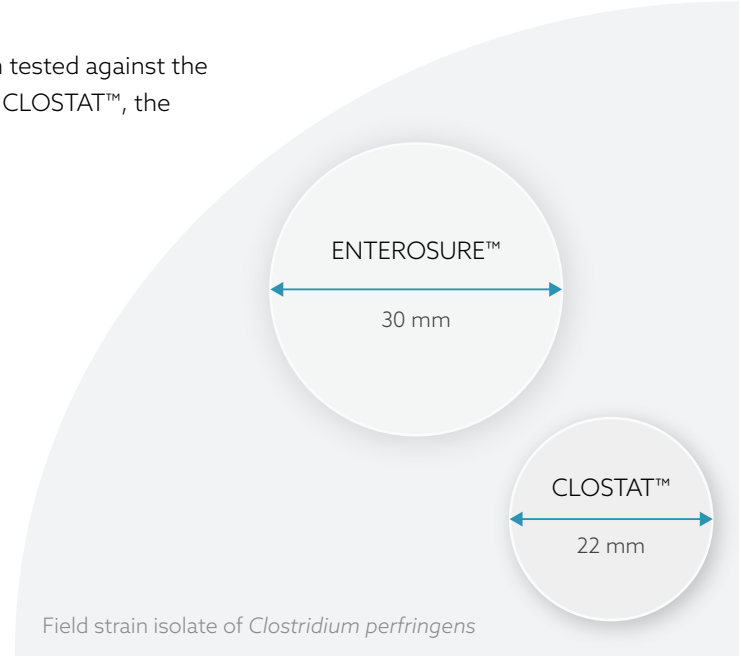
ENTEROSURE™ manages the prevalence of other *Enterobacteriaceae* and promotes, restores and maintains a healthy microbiome through the production of antimicrobial metabolites and quorum quenching molecules.

ENTEROSURE™ supports Antibiotic Growth Promoters (AGPs) reduction and removal programs.

In vitro Clostridium perfringens inhibition

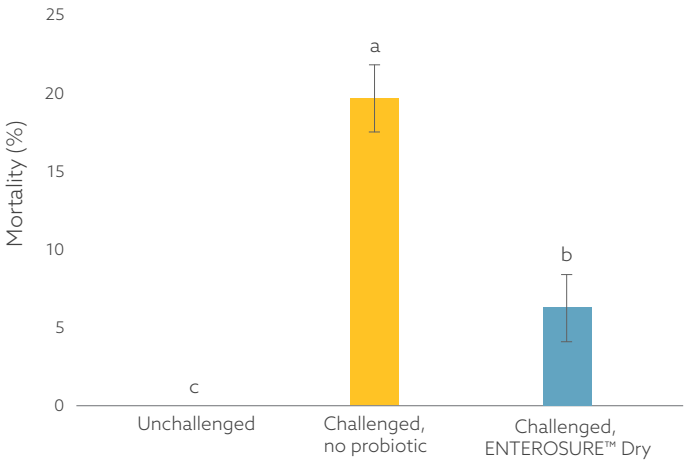
The evolutionary solution, ENTEROSURE™, has been tested against the field strains of *Clostridium perfringens*, compared to CLOSTAT™, the predecessor of enteritis management.

ENTEROSURE™ shows **36%** additional efficacy in inhibiting *Clostridium perfringens* over CLOSTAT™



KID: SD-22-24559

In vivo Clostridium perfringens inhibition

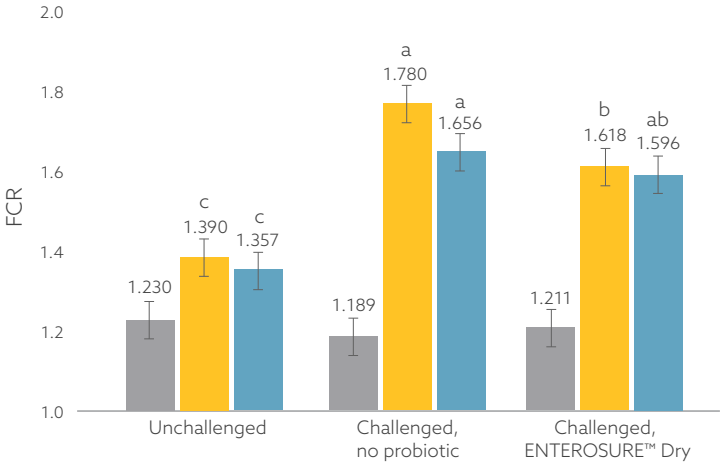


TREATMENTS	NE LESIONS MEAN
Unchallenged	0 [c]
Challenged, no probiotic	1.953 [a]
Challenged, ENTEROSURE™ Dry, 500 g	1.096 [b]

ENTEROSURE™ reduces necrotic enteritis (NE) mortality of birds challenged with *Clostridium perfringens*.

- Unchallenged
- Challenged, no probiotic
- Challenged, ENTEROSURE™ Dry

*Values with different superscript letters[a-c] indicate differences in means ($P < 0.05$).



ENTEROSURE™ improves FCR of birds challenged with *Clostridium perfringens*.

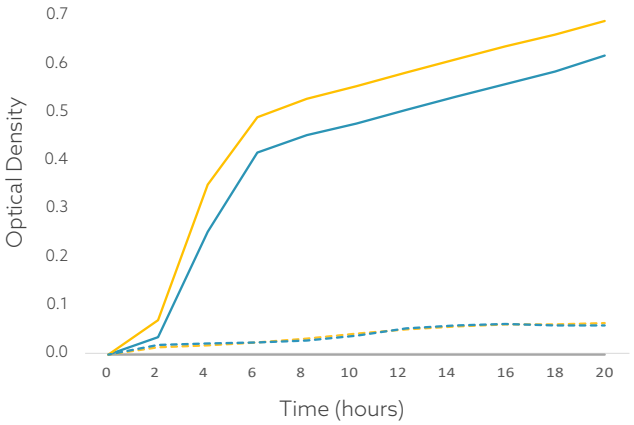
- 0 to 14 days
- 14 to 21 days
- 14 to 28 days

*Values with different superscript letters[a-c] indicate differences in means ($P < 0.05$).

KID: WP-21-1055

KEMIN INTESTINAL HEALTH

In vitro E. coli inhibition

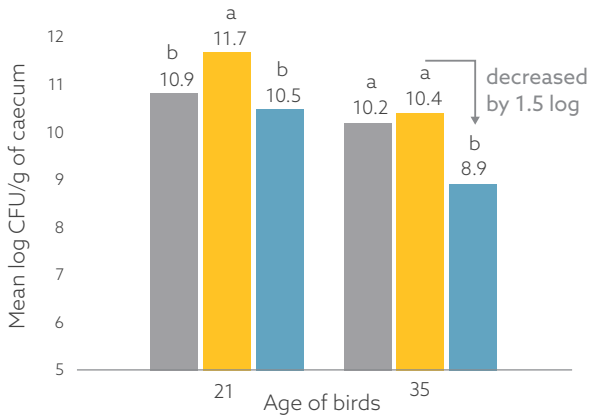


ENTEROSURE™ has good *in vitro* efficacy against various strains of avian pathogenic *E. coli*.

- Negative control
- *E. coli* 1
- *E. coli* 2
- ENTEROSURE™ Dry, *E. coli* 1
- ENTEROSURE™ Dry, *E. coli* 2

KID: WP-20-640, WP-20-691

In vivo E. coli inhibition



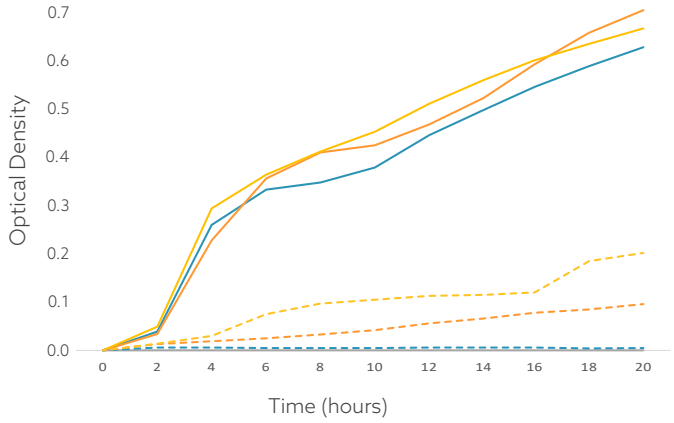
ENTEROSURE™ significantly reduces total *E. coli* counts in the caecum by 1.5 log in challenged birds.

- Unchallenged
- Challenged
- Challenged, ENTEROSURE™ Dry, 500 g, *E. coli*

KID: TD-21-7351

*Values with different superscript letters[a,b] indicate differences in means ($P < 0.05$).

In vitro Salmonella management

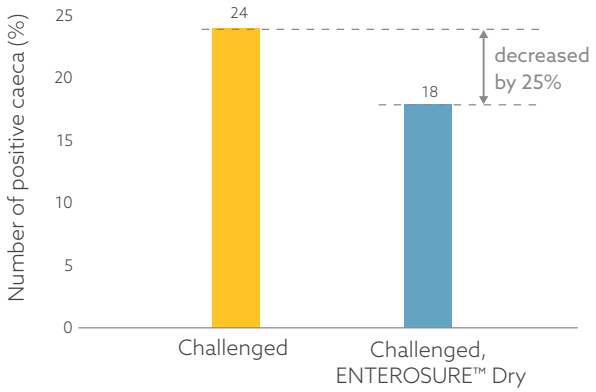


ENTEROSURE™ has good *in vitro* efficacy against various strains of *Salmonella* spp..

- Negative control
- *Salmonella* 1
- *Salmonella* 2
- *Salmonella* 3
- ENTEROSURE™ Dry + *Salmonella* 1
- ENTEROSURE™ Dry + *Salmonella* 2
- ENTEROSURE™ Dry + *Salmonella* 3

KID: WP-20-640, WP-20-691

In vivo Salmonella management



ENTEROSURE™ reduces *Salmonella* positive caeca in indirectly challenged birds.

- Challenged
- Challenged, ENTEROSURE™ Dry, 500 g

KID: WP-21-901

Like the eucalyptus tree growing on the rough rocky surfaces of the mountain and known for its resilience to thrive in challenging environments, in today's poultry production, farmers need their birds to be more resilient to diseases to safeguard the profitability of their operations.

ENTEROSURE™ drives intestinal resilience. With ENTEROSURE™, we protect your bottom line.

RECOMMENDATIONS FOR BROILERS

ENTEROSURE™ Dry	Min 500 grams per ton of feed
ENTEROSURE™ HC Dry	Min 100 grams per ton of feed

- Available in 25 kg
- Keep bag closed when not in use
- Store in a cool and dry place in the original package
- For information, contact your Kemin representative

KEMIN®
INTESTINAL HEALTH