

PHYTOGENICS & PROBIOTICS

TO KNOCK OUT POULTRY ENTERIC CHALLENGES

VANNIX™ C4



VANNIX C4 CAN BE USED AS A **NATURAL ALTERNATIVE TO ANTIBIOTICS** TO IMPROVE GUT HEALTH.

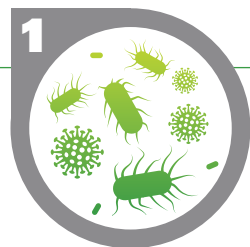
NATURAL GUT HEALTH AND PERFORMANCE SUPPORT

VANNIX™ C4 is a proprietary blend of phytogetic ingredients and probiotics used to minimize the impact of enteric challenges on poultry performance. A novel phytogetic feed additive, VANNIX C4 features a unique blend of natural, phytogetic molecules — including tannins — and a spore-forming direct-fed active microbial (*Bacillus subtilis* PB6). Research has shown that the synergistic ingredient combination in VANNIX C4 may help reduce the impact of pathogens — like *Eimeria* and *Clostridium perfringens* — on poultry intestinal integrity, thereby supporting optimal performance.

VANNIX C4 FEATURES AND BENEFITS

- Contains phytogetics and probiotics including tannic acid extract, a novel hydrolysable tannin, and the probiotic PB6, a unique, patented strain of *Bacillus subtilis*
- Utilizes standardized active ingredient levels to ensure consistent response
- Supports intestinal integrity by reducing lesions due to coccidiosis and necrotic enteritis
- Helps coccidiosis-vaccinated poultry maintain performance
- Improves overall gut health, which can lead to improved performance

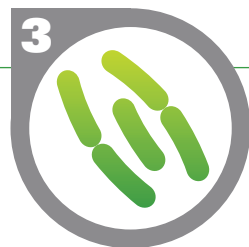
FOUR WAYS VANNIX C4 SUPPORTS POULTRY HEALTH AND PERFORMANCE



1
INHIBIT
PATHOGEN
GROWTH



2
IMPROVE
INTESTINAL
INTEGRITY



3
MAINTAIN
MICROBIAL
BALANCE



4
MITIGATE
ENTERIC
STRESS

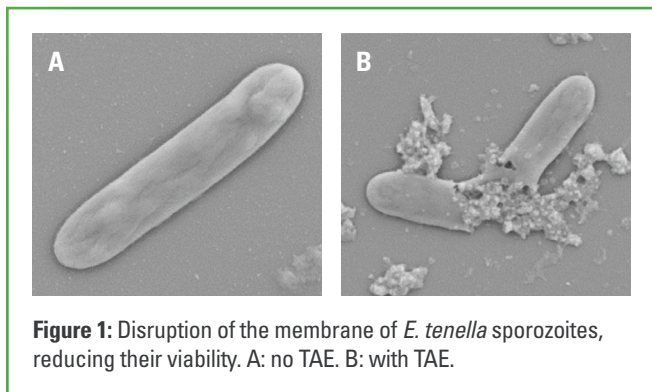
WITH PHYTOGENIC AND PROBIOTIC INGREDIENTS **VANNIX C4** OFFERS PRODUCERS A **COST-EFFECTIVE SOLUTION** TO HELP **MANAGE ENTERIC CHALLENGES** THAT COULD OTHERWISE CAUSE GROWTH DEPRESSION, POOR FLOCK UNIFORMITY AND REDUCED EFFICIENCY.

THE SCIENCE BEHIND VANNIX C4

Poultry gut health challenges are frequently intertwined. That's why the VANNIX C4 formulation was designed to offer multifaceted activities to knock out common enteric pathogens, including *Eimeria* and *Clostridium perfringens*, which may limit flock performance.

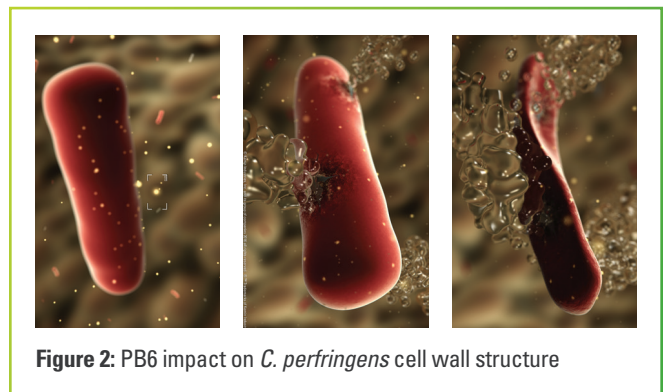
PHYTOGENIC INGREDIENT ACTIONS

- Plant polyphenols help to mitigate enteric stress via antioxidant and anti-inflammatory activities
- Astringent property of tannic acid extract (TAE) tightens mucus membranes to improve intestinal barrier integrity
- TAE may exert antimicrobial and anti-parasitic effects by inhibiting parasite growth or disrupting the parasite cell membrane (Figure 1)



BACILLUS SUBTILIS PB6 ACTIONS

- Maintains healthy microbial balance in the digestive tract
- Enhances health status, resulting in disease resistance/reduction and reduced shedding
- Secretes one or more biocidal proteins that inhibit growth of certain strains of pathogenic bacteria, such as *Clostridium* spp. (Figure 2)



REFERENCES:

- Tonda, R. M., J. K. Rubach, B. S. Lumpkins, G. F. Mathis, M. J. Poss. 2018. Effects of tannic acid extract on performance and intestinal health of broiler chickens following coccidiosis vaccination and/or a mixed-species *Eimeria* challenge. Poultry Science. 97(9):3031-3042.
- Evaluation of VANNIX™ C4 on coccidial vaccination program in broilers, TD-19-5575.
- Evaluation of a proprietary blend of natural, intestinal health ingredients to reduce the effects of necrotic enteritis in broilers raised on litter, TL-19-17087.



The Kemin Gut Health Triple Check program helps establish intestinal integrity and protection. Kemin offers products that **CLEAN UP** contaminants in feed and water prior to animal exposure, **BUILD UP** intestinal strength to reduce leaky gut and **KNOCK OUT** harmful pathogens for healthier poultry.

VANNIX C4 was developed for the **KNOCK OUT** category by supporting intestinal balance to inhibit or eliminate harmful pathogens from infiltrating the body.