

# CitriStim<sup>®</sup> for Companion Animals

CitriStim<sup>®</sup>, a yeast mannan, is an ADM proprietary yeast (*Pichia guilliermondii*) product that can be used in all pet food applications for all life stages. Yeast mannans have been shown to have a positive impact on gut microbial population and immune function in swine. Since swine and dogs have very similar digestive physiology, it is reasonable to use this applicable data for dogs and other like-animals.

## Puppies

- ◆ CitriStim has been shown to significantly improve daily gain and feed efficiency in several swine nursery studies (ADM Research Studies S03119, S04107, S05115, and S07117), which is applicable to puppies and other newborn animals.
- ◆ Research has shown that yeast mannans helps remove *E. coli*, *Salmonella*, and *Clostridium* from the intestinal tract by adhering to pathogenic bacteria.

## Adolescent and Adult Dogs

- ◆ ADM research has demonstrated that CitriStim improved feed efficiency of grow-finish pigs (ADM Research Study S05203).
- ◆ Yeast mannans play a nutritional role in lowering gut fermentation; the result is the production of volatile fatty acids which serve as an additional energy source.

## Breeding and Lactating Dogs

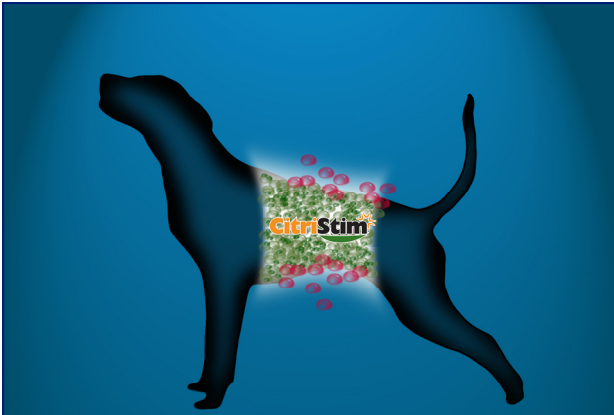
- ◆ Research with other species has shown that yeast mannans may have a positive effect on litter weaning weight and pre-weaning mortality.
- ◆ Yeast products may increase sow colostrum immunoglobulin content, which may be due to the presence of beta-glucan and yeast mannans, which is applicable to breeding and lactating dogs and other animals.

## Recommended Feeding Rates for CitriStim

- ◆ **Puppies, performance dogs, and kittens:**  
4 lb/ton (2 kg/mt) of complete feed
- ◆ **Gestating, lactating dogs and cats:**  
2-4 lb/ton (1-2 kg/mt) of complete feed
- ◆ **Adult dogs, and cats:**  
1-2 lb/ton (0.5-1 kg/mt) of complete feed

## Why ADM CitriStim:

- ◆ ADM is one of the world's largest providers of food ingredients and animal feed to the industry.
- ◆ CitriStim is produced at a single food-grade site, which guarantees consistency and uphold ADM quality standards.
- ◆ Proven functionality via *in-vitro* analysis at an independent scientific institution.
- ◆ Demonstrated efficacy for enhancing animal performance in research trials.



**BIND THE BAD PATHOGENS WITH CITRISTIM**

### When Gut Health and Immunity Matter

- ◆ CitriStim triggers key natural body defense mechanisms, enhancing immune responsiveness with a benefit of preserving nutrients for performance.
- ◆ Pathogens adhere to *Pichia* instead of intestinal cells, allowing for a more rapid clearing of pathogens. This allows for a positive effect on health.

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