



CitriStim® is a unique, whole-cell, inactivated yeast (*Pichia guilliermondii*) that can help swine fortify their defenses against health challenges. CitriStim can be used in diets for all phases of swine production.

Fortify defenses
against health
challenges

Size and Influence

While a smaller yeast, CitriStim has 4x more surface area per pound, thereby exerting a greater positive influence within the intestinal tract vs. traditional yeasts.

CitriStim in Action

- Modulates the immune system during a challenge
- Cellular components of *Pichia guilliermondii* may bind *Escherichia coli*, *Salmonella*, *Proteus*, *Klebsiella*, and *Clostridium*
- Increase relative concentrations of beneficial bacteria, *Lactobacillus* and *Bifidobacteria*, in the gastrointestinal tract
- Helps bind mycotoxins (zearalenone, aflatoxin, fumonisin)

How does CitriStim differ from other yeast products?

Unique Composition

CitriStim is a proprietary strain of *Pichia guilliermondii* which is comprised of a unique structure and ratio of whole-cell components that have been shown to elicit beneficial outcomes for production and health.

Demonstrated Efficacy

Peer-reviewed publications and extensive company research suggests CitriStim helps modulate immunity, shift bacterial populations, bind pathogenic bacteria, and reduce nutritional feed stressors.

Consistent Quality

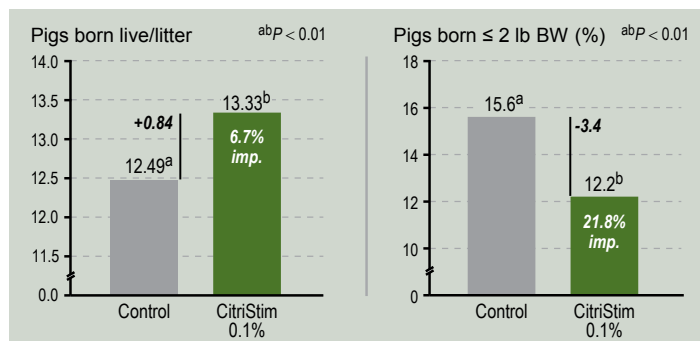
Single-site manufacturing by ADM in a food-grade facility; exceptional quality with minimal variability among batches and over time.



Nursery Phase

- CitriStim improves daily gain and feed efficiency in nursery pigs.
- CitriStim benefits weanling pigs by binding to and removing *E. coli*, *Salmonella*, and *Clostridium* from the gastrointestinal tract.

Recommendation: 2 lb/ton of complete feed



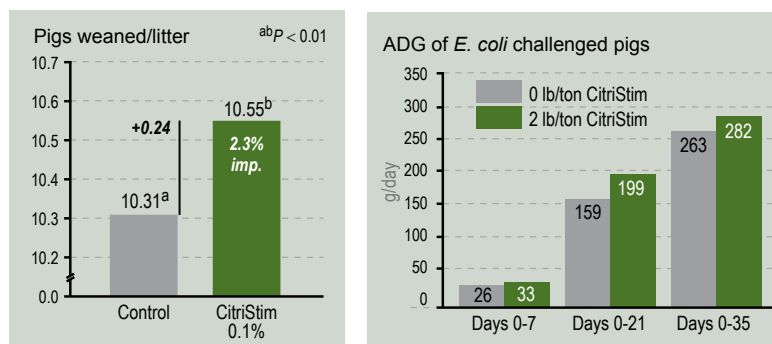
Grower/Finish Phase

- Use CitriStim when pigs are under stress of a disease challenge environment or fed poor quality feed ingredients (containing mycotoxin).

Recommendations:

Growing Pigs: 2 lb/ton of complete feed

Finishing Pigs: 1 lb/ton of complete feed



Gestation/Lactation Sow Phase

- Feeding CitriStim to sows through gestation and lactation increases the number of pigs born alive, number of pigs weaned, litter size, and decreases the number of piglets weighing less than 2 lb.

Recommendation: 2 lb/ton of complete feed



Expected Return on Investment

A producer can expect a \$6 return for every \$1 invested per litter when including CitriStim in sow lactation and gestation rations at a rate of 2 lb/ton.*

* Numbers given assume:

- average sow feed intake of 800 lb per litter
- current market prices
- 3% advantage in number of weaned pigs per sow

References

- Bass, B., V. Perez, H. Yang, D. Holzgraefe, J. Chewning, and C. Maxwell. 2012. Impact of a whole yeast on sow and litter performance. *J. Anim. Sci.* 90(Suppl. 1):49 (Abstr.)
- Bass, B., V. Perez, H. Yang, T. Tsai, D. Holzgraefe, J. Chewning, and C. Maxwell. 2012. Impact of *Pichia guilliermondii* on sow, litter, and weaned pig immune performance. *J. Anim. Sci.* 90:445-447

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today.

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