

Defend[®]R[™]

Risk Management to Ensure Healthy, High-Performing Pigs



Reduce the risk of bacterial and/or viral introduction via livestock feed.

Remove the ability of pathogens to negatively impact gut health and performance.

Relieve the negative influence of pathogenic insult by reducing gut inflammation and improving immune response.

Defend-R is a nutritional support product for pigs utilizing medium chain fatty acid (MCFA) and medium chain monoglyceride (MCMG) technology to address challenges that impact pig gut health. The natural compounds in Defend-R have been shown to significantly reduce the risk of pathogen infection via feed while minimizing pathogen impact in the gut and supporting immune function.



- Demonstrated strong antiviral and antimicrobial properties against enveloped viruses (PRRSv, PEDv, ASFv) and gram-positive and gram-negative bacteria (E. coli, Salmonella, Strep).
- Anti-inflammatory and immune-supportive activity.
- Improvement in pig health and performance due to more nutrients being used for growth and less for immune stimulation and function.

Defend-R is included in the following Safe Choice Nursery products:

Safe Choice Nurs Ph 1 w/ Defend-R - 13941-212	Safe Choice Prestarter w/ Defend-R Non-Med - 10627-212
Safe Choice Nurs Ph 2 w/ Defend-R - 13942-912	Safe Choice Prestarter w/ Defend-R MX 50 - 10217-212
Safe Choice 650 Nurs Base w/ Defend-R - 10613-442	Safe Choice 1000-AA Nurs Base w/ Defend-R - 13325-442
Safe Choice 1300 Nurs Base w/ Defend-R - 13820-442	Safe Choice Intensive Care w/ Defend-R - 10619-173

Defend-R Pak - 10712-172, 50 lbs.

Defend-R Mode of Action

Defend-R technology disrupts phospholipid membrane surrounding the phospholipid bi-layer pathogens (i.e. bacteria and enveloped viruses).

Reproduced under the terms of the CC-BY-ND 4.0 license.[161] Copyright 2018, Yoon et al., <http://dx.doi.org/10.3390/ijms19041114>

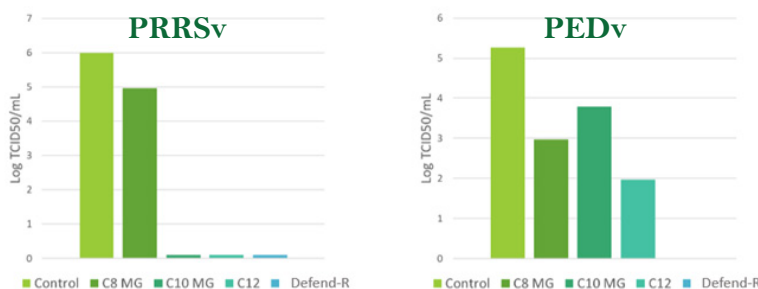
Reducing the Risk of PRRSv in Contaminated Feed

	Control	Defend-R
% Positive Feed Samples	100%	33%
% Positive Oral Samples	100% (Ct=26.1)	17% (Ct=33.0)
% Positive Serum	100%	0%
% Positive Pens (clinical signs)	100%	0%
ADG (lbs.)	0.44	1.1*

*P<0.05

Risley et al., 2019

Effects of Medium Chain Fatty Acids (MCFA) & Medium Chain Monoglycerides (MCMG) on PEDv and PRRSv *in vitro*



Animal Health Diagnostic Center, College of Veterinary Medicine, Cornell University
Elrod, Jackman and Diel, 2019.

Defend-R proved to be the most effective compared to other MCFA/MCMG products, at reducing the level of infective PEDv and PRRSv *in vitro*.

Reductions of 6 log in infective PRRSv and 5+ log in infective PEDv realized with Defend-R active component(s) when incubated for 1 hour, then virus grown for 4 days.

Feeding Directions for Defend-R Pak

Suggested use rates:

5 lbs/ton in nursery diets

4 lbs/ton in sow and growing pig diets

