

# RESEARCH BRIEF

SWINE



## WHAT IS PRRS?

Porcine Reproductive and Respiratory Syndrome (PRRS) is a viral disease characterized by two overlapping clinical presentations, reproductive impairment or failure in breeding animals, and respiratory disease in pigs of any age.

## CAUSES OF PRRS IN PIGS

Pigs can get the PRRS virus through multiple routes, including oral-nasal, intra-muscular, intra-peritoneal, semen and vaginal infection. Once a herd becomes infected, PRRS virus establishes an endemic cycle of transmission that results in chronic or recurring episodes of reproductive and/or respiratory disease. Heat stress, seasonal changes, and co-infections including swine influenza virus (SIV) and mycoplasma pneumonia with PRRS significantly influences the severity of the disease.

### Clinical Symptoms of PRRS in Piglets, Weaners, Grow/Finish, and Breeding Herd

Anorexia & Fever
Lethargy & Depression
Respiratory Distress & Vomiting
Mild cyanosis of the ears, abdomen and vulva
Reproductive problems, decrease in the number of dams that conceive or farrow
Increase in premature farrowing, late term abortions, stillborn or weak piglets and mummified fetuses
Higher preweaning mortality
Nursing pigs may have dyspnea (thumping)
Stunted growth due to systemic disease
Pneumonia & Sneezing

## ECONOMIC IMPACT OF PRRS

PRRS imposes a substantial financial burden on swine producers and impacts all phases of production (breeding herd, nursery, and grow/finish pigs). Along with increased abortions and still births it is estimated that annual revenue losses exceed more than \$1 billion dollars and results in 8 million fewer pigs weaned in the United States alone.

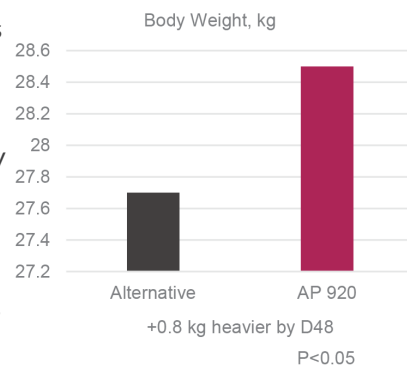
How can nutrition help pigs experiencing symptoms of PRRS or SIV? The answer may include feeding plasma functional proteins.

Peer reviewed research has shown that nursery feed containing spray dried plasma can improve performance while reducing mortality of PRRS positive pigs.

Based on current economics, PRRS positive nursery pigs fed spray dried bovine plasma returned \$2.40 per pig more on average.

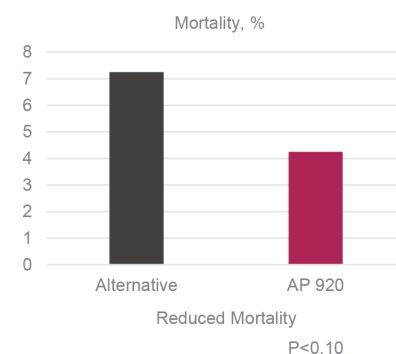
## SDP IMPROVES BODY WEIGHT

PRRS positive weaned pigs fed diets with spray dried bovine plasma (SDBP) had higher average BW by day 7 and day 21 in the nursery than control pigs fed diets with alternatives to SDBP. By the end of the study pigs fed diets with SDBP were 0.8 kg (1.7 lb) heavier than control pigs.



## SDP REDUCES MORTALITY

PRRS positive pigs fed SDBP diets had lower mortality (21 of 480 pigs) compared to the control group diet that did not contain SDBP (35 of 480 pigs). At the end of the study mortality rates were 40% lower for pigs fed diets containing SDBP.



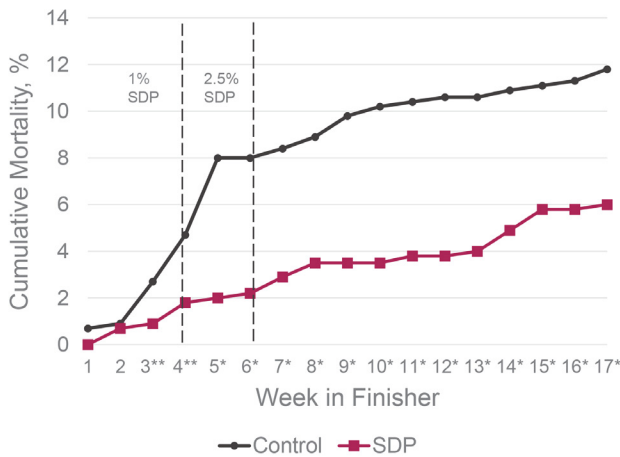
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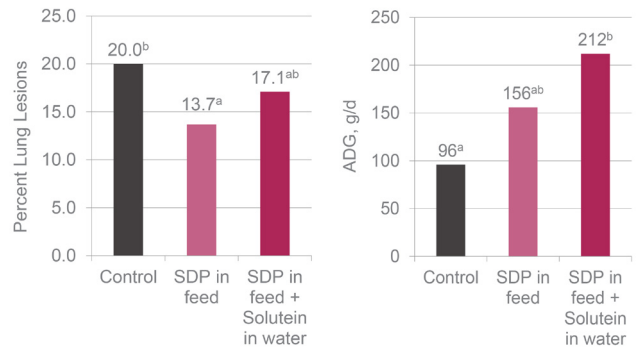
## SDP REDUCES MORTALITY 50% IN GROW / FINISH PIGS

Pigs were positive for PRRS, SIV and PCV2 and having high mortality rates.



## REDUCES LUNG LESIONS & IMPROVES ADG

Pigs fed diets with SDBP & Solutein in drinking water had better ADG and lung lesions were reduced during SIV challenge.



## SDP IMPROVES PERFORMANCE MEASURES IN SOWS

In a chronic PRRS sow herd using 0.5% SDP in gestation and lactation feed for sows resulted in better farrowing rate, more pigs weaned per mated sow and better economic returns.

**FARROWING RATE**

5% ↑

**REPEAT MATINGS**

3.2% ↓

**PIGS PER SOW MATED**

0.4 ↑

### Plasma derived proteins help ease the impact of PRRS

Research trial results demonstrate that using plasma functional proteins in feed or drinking water can be effective in helping pigs in all phases of production better cope with the negative and detrimental effects brought on by PRRS and other common respiratory disease like SIV. Plasma helps to minimize the effects of stressors and get animals back to normal quickly, effectively, and consistently.

## PRODUCT OPTIONS

AP 920 | 820 spray dried plasma powder or Appetein granulated plasma are both options for use in swine experiencing stress from PRRS or SIV and may be formulated into a special diet or used as a top dress.

Solutein is a multi-purpose water soluble and (top dress) feed additive management tool. It contains plasma and serum proteins as well as other vital nutrients for swine health and nutrition. Please ask for the Solutein brochure for details on mixing and feeding rates.



AP 920 | 820  
Spray Dried Plasma Powder



APPETEIN  
Granulated Plasma



SOLUTEIN  
Soluble Protein Blend

<sup>1</sup>"Porcine Reproductive and Respiratory Syndrome (PRRS)." Iowa State University, vetmed.iastate.edu/vdpam/FSVD/swine/index-diseases/porcine-reproductive;

<sup>2</sup>Benfield et al., 1999, et al. Disease Management Pig Diseases PRRS. www.farmhealthonline.com/US/disease-management/pig-diseases/prrs/;

<sup>3</sup>Neumann, Eric & Kliebenstein, James & Johnson, Colin & Mabry, John & Bush, Eric & Seitzinger, Ann & Green, Alice & Zimmerman, Jeffrey. (2005). Assessment of the economic impact of porcine reproductive and respiratory syndrome on swine production in the US. Journal of the American Veterinary Medical Association. 227. 385-92. 10.2460/javma.2005.227.385;

<sup>4</sup>Messier et al., 2007, Amer. Assoc. Swine Vet., p 147-150;

<sup>5</sup>Adapted from Diaz, et al. 2010. IPVS. Potential positive effect of commercial spray-dried porcine plasma on pigs challenged with PRRS virus;

<sup>6</sup>Crenshaw et al., 2017 JSHP 25(1):10-18;

<sup>7</sup>Campbell et al., 2006, AASV, p. 136-142.

