Evaluation of supplementation with ImmuFend®, on sow and piglet performance during farrowing and lactation

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Introduction

- University of Illinois
  - 2015 - BS Animal Sciences
  - 2019 – DVM
- Suidae Health & Production
  - 11 veterinarian swine exclusive veterinary practice
    - Offices: Algona, IA, Lake City, IA and Morris, MN
    - Practice throughout mid-west
  - Vet services, management, research and product procurement
- Joined in 2019, became a partner 2022, and transitioned to President/Managing Partner 2025
  - Consulting and research*

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Supplement Sows with Antioxidant Strategy to Move More Pigs Out the Door

Research shows a new way to improve piglet performance, move more pigs out the door, and potentially reduce the economic burden of health challenges.

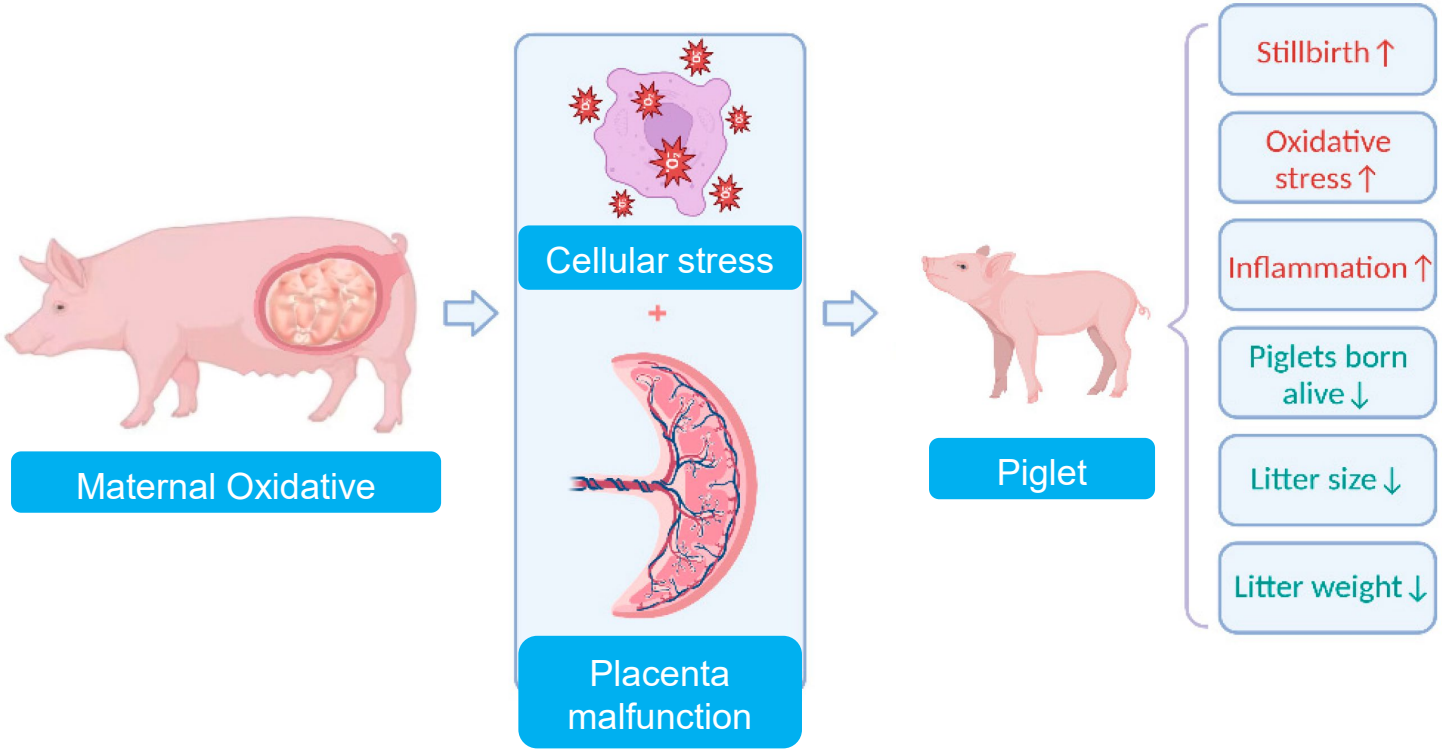
By **Jennifer Shike**
Updated April 04, 2025 10:07 AM

FarmProgress National Hog Farmer

Examining antioxidant supplementation in sows pre-farrowing and during lactation

What's the impact on sow and piglet performance?

HIGH PROLIFICACY SOWS + OXIDATIVE STRESS: IMPACT ON PIGLET VIABILITY



Adapted from Yang et al., (2023)

Oxidative Stress in High Prolificacy Sows

In periods of high physiological demands when animals are facing dietary deficiencies in specific nutrients

Nutritional recommendations must consider the modulation of responses to oxidative stress for optimizing production performance (Durand et al., 2022) and productivity.

Dietary interventions—specifically, the provision of feeds and supplements rich in antioxidants (Ponnampalam et al., 2022; Skaperda et al. 2019) become critical

IMMUFEND™

by TechMix

A novel blend of water-soluble micronutrients and antioxidants for pigs of all ages.

ImmuFend™

- ImmuFend™ is a specific combination of water-soluble micronutrients and antioxidants for pigs of all ages to minimize the negative effects of oxidative stress and to fortify the immune system in pigs.

IMMUFEND™
by TechMix

A novel blend of water-soluble micronutrients and antioxidants for pigs of all ages.

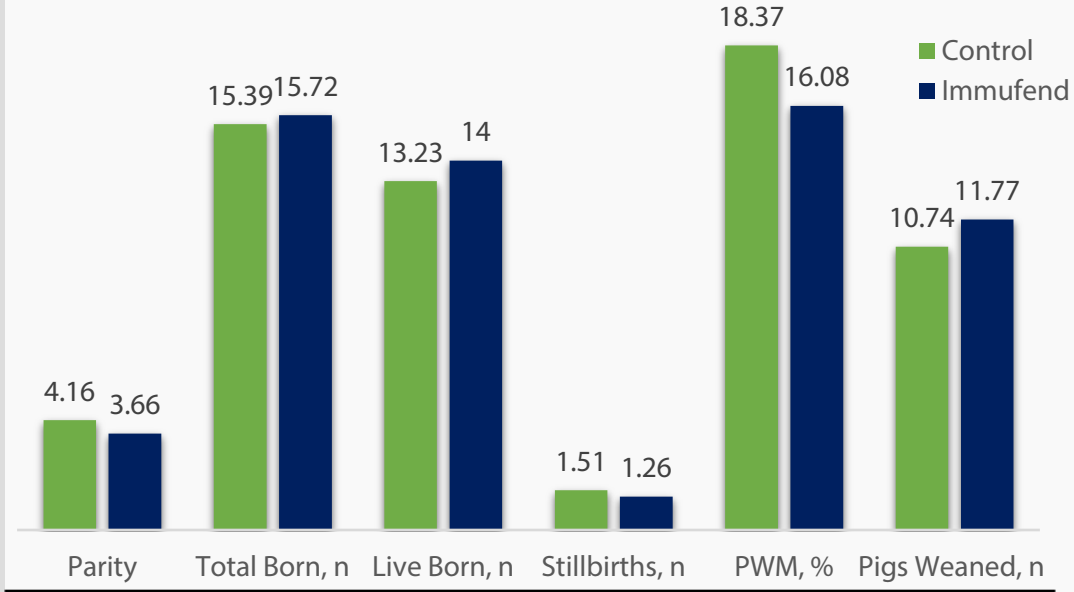
Composition

Vitamin C
Zinc Amino Acid Complex
Vit E
Vit B12
Vit B1
Vit K
Vit A
VIT D

The compounded effect of the nutrients in ImmuFend is expected to deliver its full benefits rather than considering the inclusion (concentration) of each individual nutrient.

Study conducted by Carthage Veterinary Solutions

Immufend in Sows: Numeric increase in #Wean Pigs/Sow



p	0.487	0.524	0.324	0.821	0.419	0.07

	Control	ImmuFend™
Sow Count, n	152	135
Rooms, n	9	9

- Numerical improvements were observed in KPIs measured when Immufend was supplemented in sows 3 days pre-farrow and through the lactation period.
- **9.59 %** more pigs were weaned/sow when compared to those that did not receive Immufend.
- **~1.0** extra pig at weaning from sows that received Immufend when compared to control sows.

Objective

To evaluate the differences in sow and piglet farrowing and weaning metrics with two ImmuFend supplementation protocols under a **natural porcine reproductive and respiratory syndrome (PRRS) challenge.**

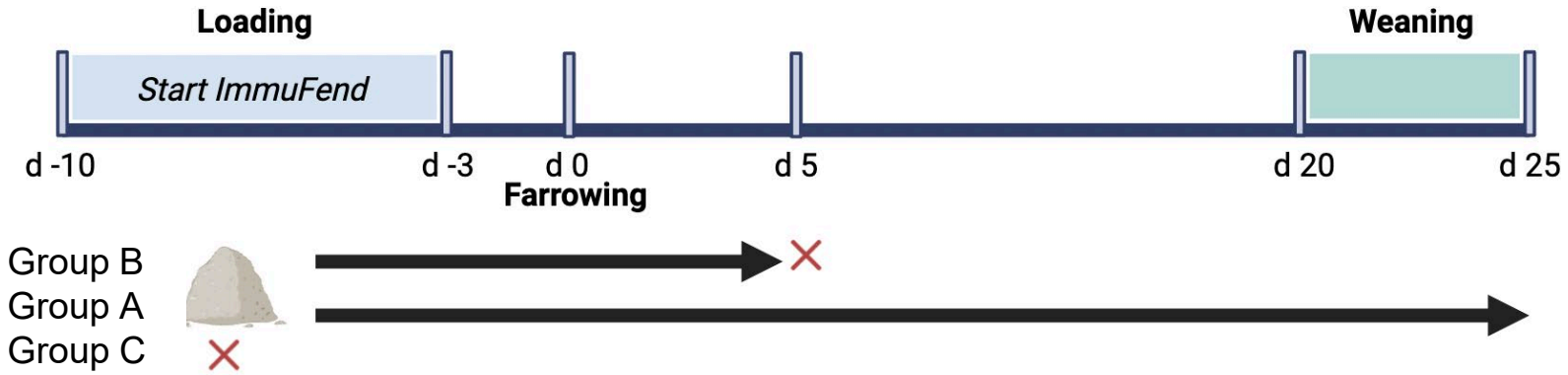
Materials and methods

- 6,500 head, AASV category I PRRSV positive (Holtkamp, et al., 2011)
- 943 pregnant sows enrolled
- Parities ranging from 1-3 (n = 300)
- ImmuFend top-dress supplementation

Materials and methods

- Sow were randomly allotted by parity to 1 of 3 treatment groups
- All treatments initiated around the time of loading into farrowing crates (3-12 days prior to farrowing)
    - **Group A**: ImmuFend supplementation pre-farrow to weaning
    - **Group B**: ImmuFend supplementation pre-farrow to 5 days post-farrow
    - **Group C**: Control, No ImmuFend supplementation

Materials and methods



Materials and methods

- Sow Data Collection
  - Caliper measurement were recorded at the time of loading into farrowing crates and at weaning
  - Sow farrowing records, farrowing assistance, treatment and mortalities
  - Subsequent litter data – wean to first service interval, sow removals, and subsequent farrowing records

Materials and methods

- **Piglet Data Collection**
  - Liveborn, stillborn, and mummies were recorded to measure farrowing performance
  - Subset of piglet weights (n = 2009) were recording at processing (3-5 days of age), and at the time of weaning (19-25 days of age)
    - Enrolled using LeeO
  - Total number of piglets weaned per sow
  - Treatment and Mortalities

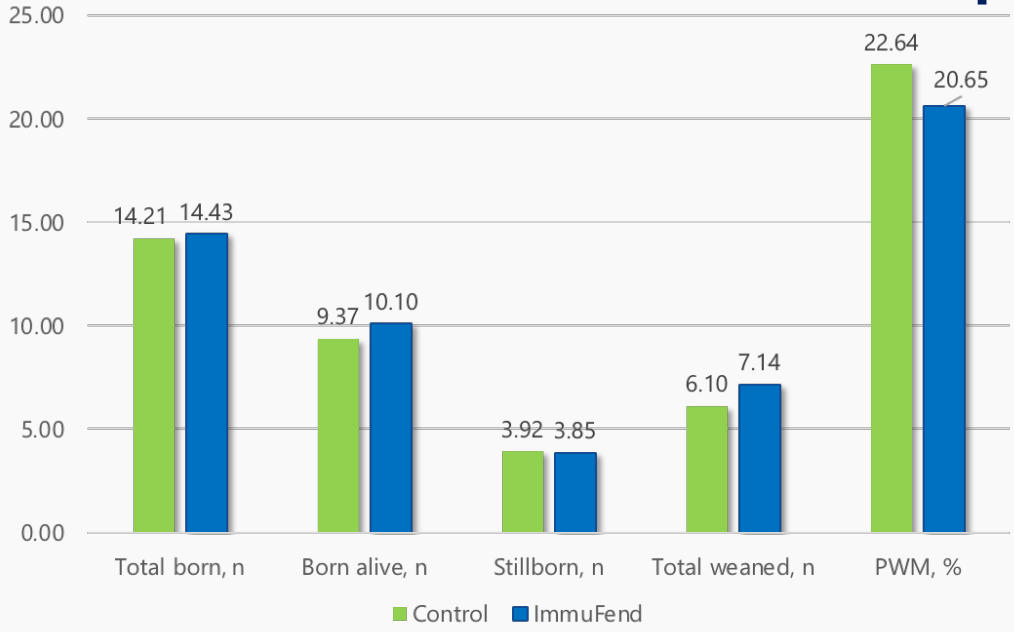
Materials and methods

- Statistical analysis was performed using Generalized Linear Mixed Model and MANOVA Repeated Measures functions of JMP PRO 18. Litter was the experimental unit. Results were considered significant if $P < 0.05$.

Litter Data

Table 1. Effect of ImmuFend treatment on sow and piglet performance					
Litter Characteristics	A	B	C	SEM	P <
Born alive %	69.96	68.03	65.98	1.764	0.259
Mortality %	20.65	23.22	22.64	1.139	0.243
Total weaned, n	7.14[a]	6.55[ab]	6.10[b]	0.280	**0.025**
Piglet Weights, lbs					
Processing	3.85	3.76	3.78	0.092	0.752
Weaning	11.81	12.18	11.49	0.354	0.368
ADG	0.497[ab]	0.509[a]	0.474[b]	0.007	**0.002**

Immufend in Sows: Significant increase in weaned pigs

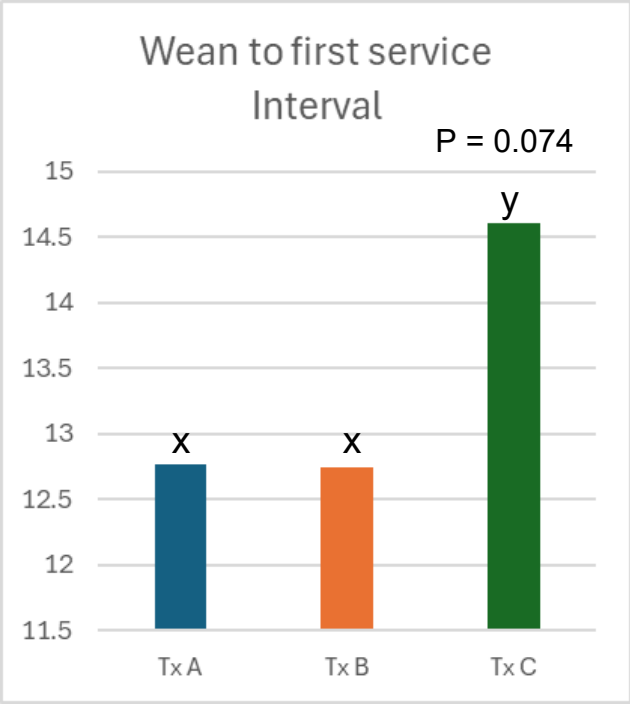


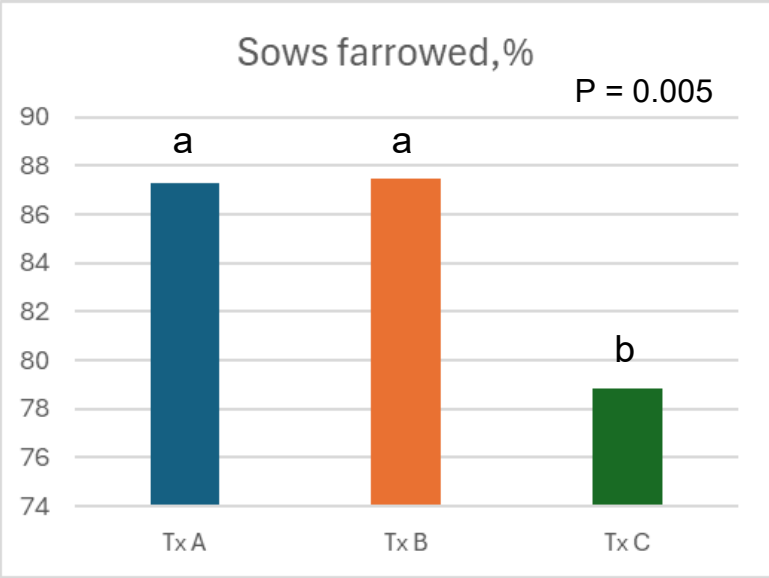
p	0.419	0.259	0.295	0.025	0.243

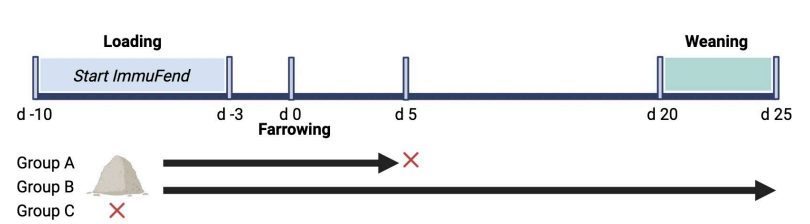
	Control	ImmuFend™
Sow Count, n	316	312
Rooms, n	10	10

- Numerical improvements were observed in KPIs measured when Immufend was supplemented in sows 3 days pre-farrow and through the lactation period.
- **17.0 %** more pigs were weaned/sow when compared to those that did not receive Immufend.
- **~1.0** extra pig at weaning from sows that received Immufend when compared to control sows.

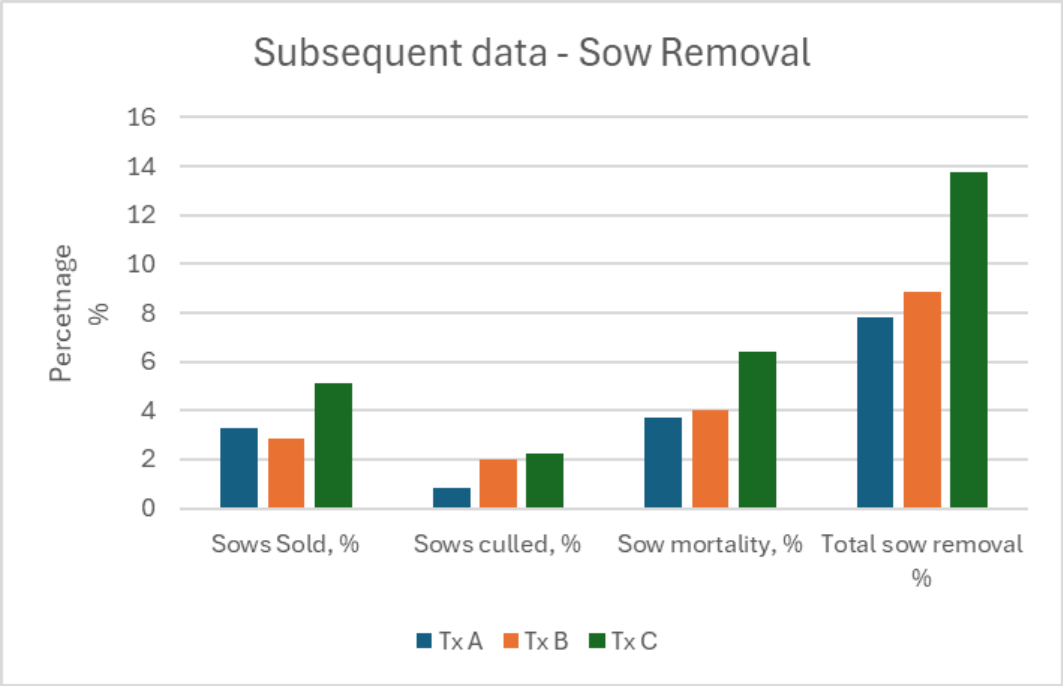
Subsequent Litter Data

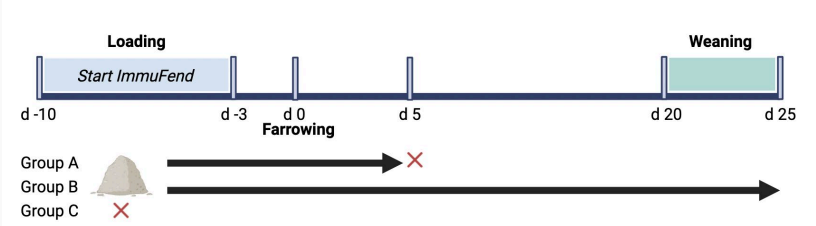






Subsequent Litter Data





Results and Discussion

- Effect on number of pigs per sow and piglet average daily gain (ADG) through lactation was significant (Table 1)

- Numerical difference were observed for litter characteristics and piglet weights
- Trending difference in wean to first service interval on subsequent breeding
- Statistically significant higher percentage of sows farrowed a subsequent litter

Results and Discussion

- Intervention at the time of health challenge may result in improvement in piglet performance, more pigs out the door, and potential to reduce the economic burden of disease challenges for producers

Questions?

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