

mono-unsaturated FA were greater ( $P < 0.05$ ), whereas that of linolenic acid (C18:3 n-3) was less ( $P < 0.05$ ), in the pigs fed Diet 1 than the pigs fed Diet 2. These results suggest that the IMF content of longissimus muscle of late-stage finishing pigs can be increased with reduced level of dietary lysine. Dietary lysine level can also alter the proportions of FA, especially that of mono-unsaturated FA, which improves pork nutritive values and eating quality. Further research, however, is needed to study if transient use of a lysine-deficient diet can improve pork eating quality via altering the IMF content and its FA composition without compromising the growth performance of pigs at their late finishing stage. This project was supported by USDA Hatch/Multistate Project 1007691.

**Key Words:** intramuscular fatty acid composition, lysine, finishing pig  
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### 100 Evaluating the efficacy of commercial feed additives as potential porcine epidemic diarrhea virus (PEDV) mitigation strategies in complete feed and spray-dried porcine plasma as determined by polymerase chain reaction analysis and bioassay.

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Potential strategies to mitigate the risk of porcine epidemic diarrhea virus (PEDV) transmission in feed and feed ingredients would be valuable for swine producers and feed manufacturers. Research has been conducted assessing potential PEDV mitigation techniques, including the use of medium chain fatty acids, essential oils, organic acids, or formaldehyde and thermal processing during pelleting of complete diets. Some of these strategies are currently cost prohibitive and not available commercially. A commercial essential oil-based product and a benzoic acid product (CRINA, VevoVital, respectively; DSM Nutritional Products Inc., Parsippany, NJ) are marketed to improve growth performance. Their chemical composition suggests potential efficacy as a practical, cost-effective PEDV mitigation strategy. Therefore, the objective of this study was to determine the impact of VevoVital (5000 mg/kg) and/or CRINA (200 mg/kg) as potential chemical mitigation strategies of PEDV in feed and a feed ingredient as determined by qRT-PCR and swine bioassay. Swine gestation diet (FEED) and spray-dried porcine plasma (SDPP) were treated with CRINA and VevoVital in a 2 × 2 factorial treatment structure, inoculated with PEDV, stored at room temperature (21°C), and analyzed on 7 sampling days after inoculation (d 0, 1, 3, 7, 14, 21, 42). On each day of analysis, samples were eluted with PBS, and an aliquot was submitted

for qRT-PCR analysis for PEDV RNA and stored (−80°C) until determination of infectivity via 10 d old pig bioassay. Data were analyzed using PROC GLIMMIX (SAS Institute, Inc., Cary, NC) to determine main and interactive effects for treatment, feed matrix, and day after inoculation on PEDV Ct values. A marginally significant treatment × feed matrix × day interaction ( $P = 0.082$ ) was observed in which the cycle threshold (Ct) increased over time in FEED when treated with the combination of products (COMBO), whereas there was no increase over time observed in SDPP (d42 Ct = 45.0 vs. 29.7, respectively;  $P < 0.001$ ). There was a feed matrix × day interaction ( $P < 0.001$ ) in which the Ct increased over time in FEED, whereas no increase over time was observed in SDPP. Virus shedding was observed in the d 7 post-laboratory inoculation SDPP COMBO treatment, as well as d 0 FEED COMBO treatment. No additional infectivity was observed in FEED (d 1, 3, 7, 14, 21 COMBO treatments). In summary, the combination of CRINA and VevoVital enhanced degradation of PEDV RNA in FEED but had no impact on RNA degradation in SDPP. Over time, the infectivity was maintained for a longer duration after inoculation in SDPP than FEED.

**Key Words:** chemical mitigation, PEDV, risk mitigation  
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### 101 Comparison of digestibility of amino acids in full-fat soybean, soybean meal, and peanut flour between broiler chickens and pigs.

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The objective of this experiment was to compare the apparent ileal digestibility (AID) and standardized ileal digestibility (SID) of CP and AA for broiler chickens and pigs fed full-fat soybean (FFSB), soybean meal containing 430 g/kg CP (SBM-43), soybean meal containing 470 g/kg CP (SBM-47), and peanut flour (PNF). Four semi-purified diets were formulated to contain FFSB, SBM-43, SBM-47, and PNF, respectively, as the sole source of nitrogen. One nitrogen-free diet was also formulated to determine the basal ileal endogenous losses of CP and AA for broilers and pigs. In Exp. 1, a total of 416 twenty-one-d-old male broiler chickens were assigned to 5 dietary treatments in a randomized complete block design with BW as a blocking factor. Each dietary treatment contained 8 replicates with 10 birds per cage except for the nitrogen-free diet, which contained 12 birds per cage. On d 26 post-hatching, birds were euthanized by CO<sub>2</sub> asphyxiation, and ileal digesta samples were collected from distal ileum. In Exp. 2, twenty barrows (initial BW = 62.0 ± 6.89 kg) surgically fitted with T-cannula at the distal ileum were individually housed in metabolism crates and assigned to quadruplicate 5 × 2 incomplete Latin square design with 5 diets and 2 periods. Each period consisted of 5 d of adaptation and 2 d of ileal digesta collection periods. Interactions between ingredients and species were not observed