

246 Awardee Talk: Evaluating the Impact of Essential Fatty Acids in Lactation Diets on Sow and Litter Performance. Julia P. Holen¹, Jason C. Woodworth¹, Mike D. Tokach¹, Robert D. Goodband¹, Joel M. DeRouchey¹, Jordan T. Gebhardt¹, Ashley DeDecker², Xochitl Martinez², ¹Kansas State University, ²Smithfield Foods

Two experiments were conducted to evaluate the effects of supplemental fat sources providing low and high essential fatty acids (EFA) in lactation diets on sow reproductive performance, piglet growth and survivability, and colostrum and milk composition. In Exp. 1, mixed parity sows (n = 91) were allotted to 5 experimental treatments arranged in a 2×2 + 1 factorial. Treatments were corn-soybean meal-based diets that contained no added fat or diets with 3% added fat as either beef tallow or soybean oil starting on d 107 or 112 of gestation. Sows were provided low EFA [linoleic acid (LA) and α-linolenic acid (ALA)] in diets without supplemental fat or with beef tallow or high EFA with soybean oil. Results confirmed that providing fat sources with high EFA can increase colostrum and milk LA and ALA content, regardless of pre-farrow time of diet consumption. However, supplemental fat did not influence litter growth performance ($P > 0.05$). In Exp. 2, mixed parity sows (n = 3,451) were assigned to 4 corn-soybean meal-wheat-based lactation diets with 0.5 (Control) or 3% choice white grease (CWG), 3% soybean oil (SO), or a combination of 3% soybean oil and 2% choice white grease (Combination) at d 112 of gestation to provide diets with low or high EFA. Lactation ADFI increased ($P < 0.05$) for sows fed the Combination and CWG diets compared with sows fed the Control or SO diet. Sows fed Combination and SO diets had greater ($P < 0.05$) LA and ALA intake, LA and ALA in colostrum and milk, litter weaning weights, and litter ADG than sows fed 0.5 or 3% CWG. Sow EFA intake did not affect ($P > 0.10$) piglet survivability or subsequent sow reproductive performance. In conclusion, increased LA and ALA intake provided by SO during lactation increased overall litter growth and weaning weights but did not affect piglet survivability or subsequent performance.

Keywords: essential fatty acids, lactation, sow

253 Determining the Relationship Between Different Risk Factors with Pelvic Organ Prolapse Incidence in Sows. Andre Waltrich¹, João Victor Facchini Rodrigues¹, Rosiel Cavalcante Filho², Amanda P. Siqueira², Pedro G. Lisboa², Gefferson Almedia da Silva², Gilberto Carlos Vaz³, Rodrigo Silva³, Carine M. Vier⁴, Ning Lu⁴, Wayne R. Cast⁴, Steve Dritz⁴, Uislei A. Orlando⁵, ¹Federal University of Parana, Brazil, ²Agroceres PIC, ³Acadrolli System, Brazil, ⁴Genus PIC, ⁵Genus PLC

Our objective was to evaluate the relationship of different putative factors with the occurrence of pelvic organ prolapse (POP) in sows. Data from 1,028 sows (PIC Landrace or PIC Camborough, Hendersonville TN) was collected at the final third of gestation, pre-farrowing, at farrowing, and post-farrowing from July to September 2021 in 2 sow farms located in South of Brazil. The annualized prolapse incidence from the 2 farms in 2021 was 2.22 and 3.63%. Whole-herd information and individual sow measurements were collected, including prolapse incidence, farrowing assistance, performance records, tail length, body condition score measured by caliper, perineal score (PS), fecal score (FS), oxytocin use. A logistic regression model using PROC LOGISTIC in SAS (Cary, NC) was utilized to assess risk factors associated with POP incidence rate, with sow as the experimental unit. Sows with PS3 and PS2 had greater ($P < 0.001$) POP incidence compared with sows with PS1 (38.46, 9.41, and 0.96%, respectively). Thin sows had greater ($P < 0.001$) POP incidence compared with ideal and fat sows combined (5.8 and 1.76%, respectively). Thin sows with FS1 (dry feces) had greater ($P = 0.04$) POP incidence compared with thin sows with FS2 and FS3 (normal feces; 8.09% and 1.81%, respectively), but no evidence for differences were observed for fat and ideal sows. Sows receiving farrowing assistance had higher ($P < 0.001$) POP incidence compared with sows that were not sleeved (13.16 and 2.41%, respectively). Sows with tail length <13cm had greater ($P = 0.01$) POP incidence compared with sows with tail length >13cm (5.18 and 2.25%, respectively). There was also no evidence for an association between use of oxytocin ($P = 0.38$), total pigs born ($P = 0.38$), or total litter weight ($P = 0.53$) and POP incidence. In summary, PS, body condition, FS, farrowing assistance, and tail length appeared to be contributing factors associated with POP incidence in this system.

Keywords: prolapse, sow farm, sow mortality, swine