
362 Effects of organic versus conventional diets on dam and kid weight in Nubian caprine. Isabella V. Panetta, Bailey Armentrout-Shoaf, Matthew J. Soyland, Christina Rocco, Torea Williams, *The University of Findlay*

Recently, agriculture has trended towards the utilization of organic products, due to the belief of superior outcomes, reporting healthier animals with better weight gains, and higher quality products among consumers. However, previous research regarding organic feedstuffs has reported conflicting results, supporting the need for continuing research. Reproductive success throughout and post gestation of caprine dams is closely related to the nutritional intake of the animal, which could be impacted by consumption of organic products. The objective of the current study was to observe caprine kid birth weight, kid ADG, and dam weight throughout pregnancy comparing organic and conventional feedstuffs. Eight pregnant Nubian dams ($n = 4$) between 1 and 5 yr of age with initial BW between 45.4 and 68.5 kg were separated into groups based on initial BW and BCS. The organic group received a certified organic concentrate, certified organic mineral supplement, and a certified organic molasses while the conventional group received a conventional concentrate, conventional mineral supplement, and conventional molasses. Both groups had ad-libitum access to hay and water. Dams were fed 0.907kg/d/45.4kg of BW of concentrate and mineral supplement at 0.012kg/d/45.4kg of BW in individual feeding stocks at 0630 and 1730 for the last six wk of gestation and three wk post-parturition. Dams were individually weighted and observed weekly for BCS using the American Daily Goat Association's BCS 1 to 5 scale. After parturition, kid birth weight was measured using a hanging sling scale and daily kid weight gain was recorded for three wk post parturition. Differences in kid birth weight, kid ADG, and dam weight were analyzed by two-tailed T-Test at $P > 0.05$. No differences between kid ADG ($P = 0.759$), kid birth weight ($P = 0.405$), or for dam weekly weight ($P = 0.457$) were observed. Thus, the increase in cost to raise certified organic livestock, such as caprine, is not financially justifiable.

Key words: caprine, organic, weight

363 Evaluating the effects of day of iron injection after farrowing on preweaning performance and hematological criteria. Cierra Roubicek¹, Hayden E. Williams¹, Joel M. DeRouche¹, Jason C. Woodworth¹, Steve S. Dritz¹, Mike D. Tokach¹, Robert D. Goodband¹, Andrew Holtcamp², ¹*Kansas State University*, ²*Ceva Animal Health, LLC*.

Newborn pigs ($n = 324$; 1.6 kg BW) were used in an 19-d study evaluating the effects of Fe injection timing after birth on preweaned pig performance and blood criteria. A total of 27 litters were used, with the number of pigs per sow equalized on each day of farrowing. Two d after farrowing, all piglets were weighed, and six barrows and six gilts within each litter were allotted to 1 of 6 treatments in a CRD. Treatments consisted of a negative control receiving no Fe injection or 200 mg of injectable Fe (Gleptoforte, Ceva Animal Health, Lenexa, KS) provided on d 2, 4, 6, 8, or 10 after farrowing. Piglets were weighed and bled on d 2, 12, and 21 after birth to determine growth performance and blood Fe status. Overall, increasing the age that piglets received a 200 mg Fe injection until 4 or 6 d after birth tended to increase (quadratic; $P = 0.065$) ADG (Table 1). Not providing an Fe injection tended to decrease ($P = 0.070$) overall ADG and decreased ($P = 0.0003$) d 21 BW compared to all other treatments. Significant treatment \times day interactions ($P < 0.001$) were observed for hemoglobin (Hgb) and hematocrit (Hct). The interactions occurred because pigs injected with 200 mg of Fe on d 2, 4, 6, or 8 after birth had increasing values until d 21 after birth, while pigs receiving a 200 mg Fe injection on d 10 after birth had decreasing values to d 12 then increasing values to d 21. Pigs not provided an Fe injection after birth had decreasing values to d 21. These results suggest that providing a 200 mg Fe injection on d 4 or 6 after farrowing provided the greatest preweaning growth performance and blood Fe status until weaning.

Table 1. Effects of injectable Fe timing after farrowing on preweaning pig growth performance and blood criteria

Item ²	Fe injection day ¹						SEM
	0 ³	2	4	6	8	10	
BW, kg ⁴							
d 21	5.4	5.9	6.2	6.2	5.8	5.9	0.16
ADG, g ^{5,6}							
d 2 to 21	216	232	246	267	224	229	13.2
Hgb, g/dL ⁷							
d 2	8.3	8.2	8.4	8.2	8.4	8.1	0.21
d 12	5.6	10.4	11.0	10.5	9.0	7.0	0.22
d 21	4.1	11.4	11.5	11.4	11.2	10.9	0.21
Hct, % ⁷							
d 2	28.7	28.2	29.2	28.8	28.9	27.9	0.75
d 12	19.6	35.4	37.0	36.5	31.2	23.5	0.69
d 21	14.1	39.0	38.9	38.9	38.4	37.4	0.71

¹200 mg of Fe (Gleptoferon, Ceva Animal Health, LLC., Lenexa, KS) administered on d 2, 4, 6, 8, or 10 after farrowing.

²BW = body weight, ADG = average daily gain, Hgb = hemoglobin, and Hct = hematocrit.

³Negative control with pigs receiving no iron injection.

⁴0 vs. Others ($P = 0.0003$).

⁵0 vs. Others ($P = 0.070$).

⁶Timing main effect (quadratic; $P = 0.065$).

⁷Treatment×day interaction ($P < 0.001$).

Key words: gleptoferron, performance, preweaning

365 Effect of feeding a blend of short, medium, and long chain fatty acids and triglycerides to lactating sows on piglet growth, feed intake, and survivability to weaning. Larissa Becker¹, Nick Knute², Mahfuz Abdullah², Mohan Dasari², Chad W. Hastad³, ¹Iowa State University, ²Feed Energy Company, ³New Fashion Pork

Dietary fat may impact energy intake and palatability of feed, and influence energy storage. The objective of this experiment was to test the hypothesis that including a blend of short, medium, and long chain fatty acids and triglycerides (R² Feed Energy, Pleasant Hill, IA) in lactation diets will reduce pre-weaning mortality and increase litter weaning weight. On day 114 of gestation, dietary treatments were initiated: 1) Negative control diet and 3.2% of an all-vegetable oil blend, (Trt B); 2) Control diet with replacement of oil blend with 3.2% proprietary blend of short, medium, and long chain fatty acids and triglycerides (Trt R). Sows (n = 207; L02 Cross; PIC, Hendersonville, TN) were allotted to treatment based on body condition and parity. There were 88 parity 0 and 1 sows: 45 on TRT R and 43 on TRT B, and 119 parity 2 to 6 sows: 59 on TRT R and 60 on TRT B. Average sow parity was 2.85. Sows received 1.56 kg of their assigned diet twice per day prior to farrowing. After farrowing, sows were fed ad libitum with free access to water. Data on sow ADFI, litter weaning weight, and number of piglets weaned per sow were evaluated using PROC MIXED (SAS Institute Inc., Cary, NC). Compared with B, sows fed R consumed more feed (6.44 vs. 5.90 kg/d; $P < 0.025$). There was no difference in weaning weight (6.1 vs. 5.9kg; $P > 0.10$) or number weaned per litter (11.44 vs. 11.28; $P > 0.10$), for treatments R and B, respectively. There was no difference in sow body condition score after weaning (2.07 vs. 1.93; $P = 0.18$) for treatments R and B, respectively. The addition of R² to sow lactation diets improved sow feed intake, but not piglet growth or number weaned.

Key words: feed intake, energy, weaning weight