260 Effects of iron administration timing on pre-weaning performance and hematological criteria in pigs. Hayden E. Williams[1], Ryan T. Maurer[1], Brittany Carrender[2], Joel M. DeRouchey[1], Jason C. Woodworth[3], Steve S. Dritz[1], Mike D. Tokach[1], Robert D. Goodband[1], Kyle Coble[2], Andrew Holtcamp[4], *[1]Kansas State University, [2]JBS Live Pork, [3]Department of Animal Sciences & Industry, College of Agriculture, Manhattan, KS 66506, [4]CEVA Animal Health*

Newborn pigs (n=1,892; 1.5 kg BW) were used in a 20-d study evaluating the effects of Fe injection timing after birth on preweaned pig performance and blood criteria. A total of 172 litters were used. One d after farrowing, piglets were weighed, and 11 pigs within each litter were allotted to 1 of 6 treatments in a CRD. Treatments consisted of pigs receiving no Fe injection or 200-mg of injectable Fe (GleptoForte, Ceva Animal Health, Lenexa, KS) provided on d 1, 3, 5, or 7 of age, or 200-mg on d 1 plus 200-mg on d 12. 1 pig/litter received no Fe injection and 2 pigs/litter were placed on all other treatments. Piglets were weighed on d 1 and 20 after birth to determine growth performance and bled on d 20 to determine Fe status. Increasing the age that piglets received the Fe injection tended to decrease (linear; P=0.080) ADG. Not providing an Fe injection decreased (P=0.0001) overall ADG and d 20 BW compared to all other treatments. Hemoglobin and Hct decreased (linear; P< 0.05) with increasing age when pigs received an Fe injection. There was no evidence of differences (P >0.10) between the pigs receiving a 200-mg injection on d 1 and d 12 compared to those receiving the Fe on d 1 only. Pigs not provided an Fe injection had decreased (P=0.0001) Hb and Hct values compared to pigs receiving an Fe injection. Pigs receiving the 200-mg injection on d 1 and 12 had increased (P=0.0001) Hb and Hct values compared to pigs receiving 200-mg on d 1 only. Results suggest that providing a 200-mg Fe injection within 7 d after farrowing is sufficient for optimizing preweaning growth performance. The additional 200-mg Fe injection at d 12 did not influence growth performance but does increase Hb and Hct at weaning.

Table 1. Day of iron administration effects on pre-weaning performance and hematological criteria in pigs

		Fe injection day[1]				
Item	None[2]	1	3	5	7	1 and 12
BW, kg[3]						
d 20	5.1	6.1	6.0	6.1	6.0	6.1
SEM	0.08	0.06	0.06	0.06	0.06	0.06
ADG, g[3,4]						
d 1 to 20	192	248	244	247	240	249
SEM	3.73	2.76	2.78	2.79	2.81	2.80
Hb, g/dL[3,5]						
d 20	5.0	11.1	11.3	10.7	10.3	12.2
SEM	0.32	0.20	0.20	0.20	0.20	0.20
Hct, %[3,5]						
d 20	15.2	32.6	33.3	31.7	30.4	36.1
SEM	1.06	0.64	0.63	0.64	0.65	0.64

[1]200 mg of Fe (GleptoForte, Ceva Animal Health, LLC., Lenexa, KS) administered on d 1, 3, 5, 7, or d 1 and 12 after farrowing.
[2]Negative control with pigs receiving no iron injection.
[3]0 vs. others (P = 0.0001).
[4]Day main effect (linear; $P = 0.080$).
[5]Day main effect (linear; $P < 0.05$).

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