

Effect of Increasing Gleptoforte Dosage in Newborn Pigs on Sow and Litter Performance

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Introduction

- Iron deficiency is common in newborn piglets due to the lack of iron retention at birth, as well as rapid growth rate prior to weaning.
- An injection of 200 mg of iron, within a 3 day time period post birth, is common within the swine industry to prevent inadequate iron levels.
- Gleptoforte (Ceva Animal Health LLC., Lenexa, KS) is an iron injection containing gleptoferron, which is used to prevent anemia in piglets.
- There has been little research to determine the necessary level of iron injection for modern genotypes.

Objective

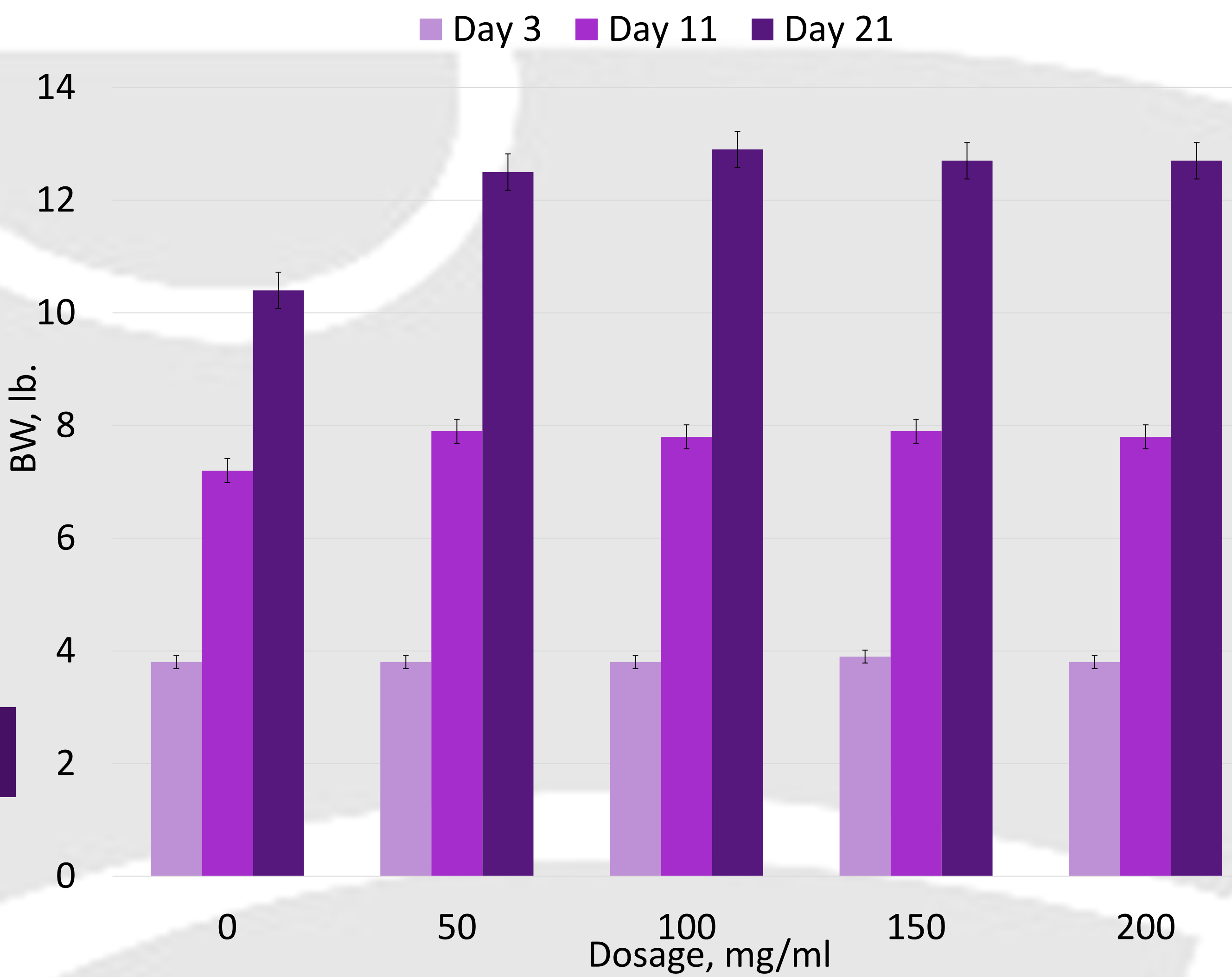
To evaluate the effects of increasing the dosage of Gleptoforte in newborn pigs on sow and litter performance.

Experimental Design

- 336 newborn pigs (DNA 241 X 600; initially 3.83 ± 0.114 lb BW) were used in a randomized design with 6 treatments.
- Treatments: 0 mg (negative control), 50 mg, 100 mg, 150 mg, 200 mg, and 200 mg +100 mg booster at d 11 of farrowing. Initial dosages were given three days after farrowing.
- 56 piglets were assigned to each treatment.
- At processing, all piglets were weighted and six barrows and six gilts from each litter were randomly assigned to a treatment.
- Weights were taken at processing, d 11, and weaning.
- One barrow per treatment was used per litter for blood collection via jugular venipuncture on day of processing, d 11, and weaning.

Results

Graph 1: Effects of Gleptoforte Dosage on Suckling Pig Performance



Graph 2: Effects of Gleptoforte Dosage on Suckling Pig Performance

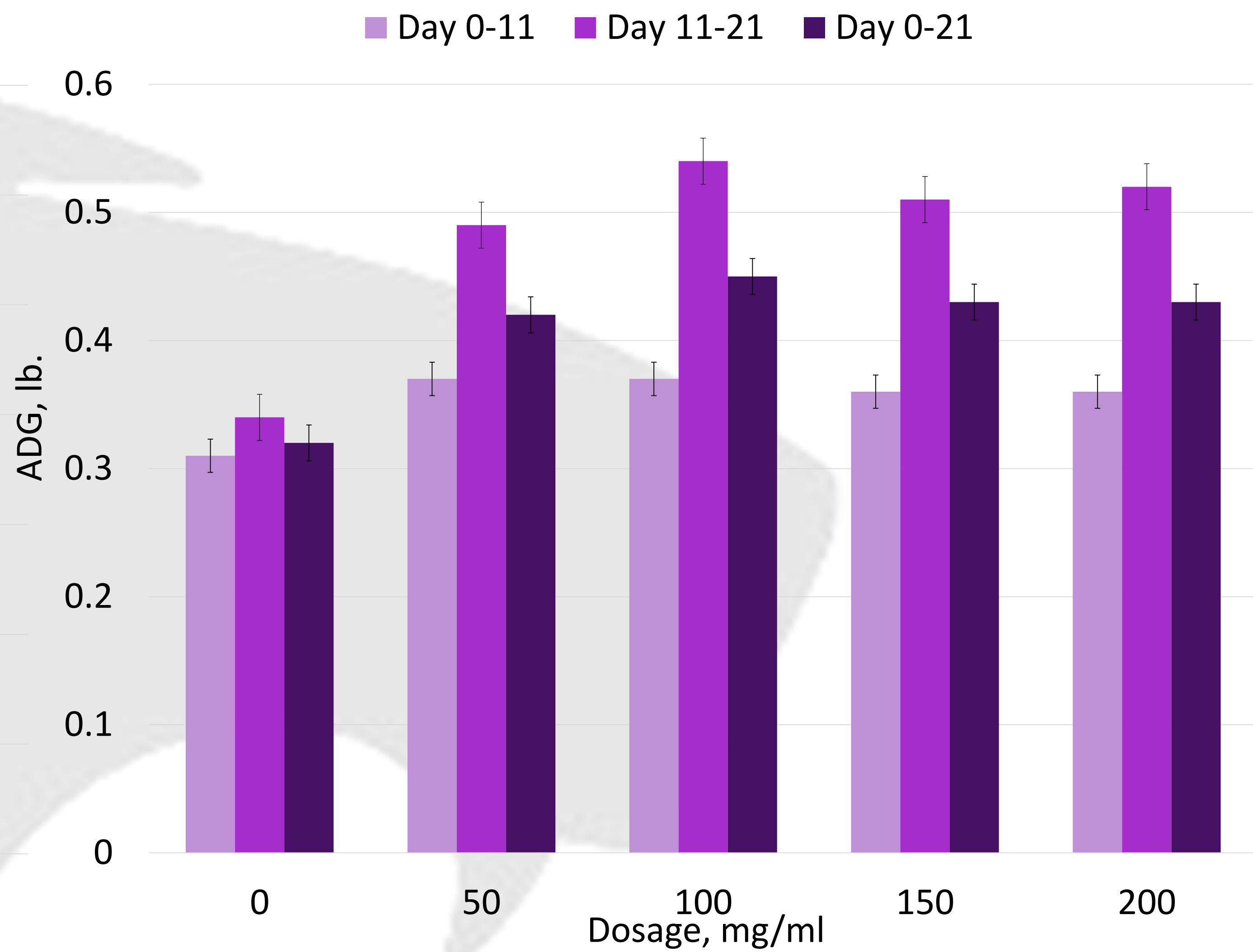


Table 1. Effects of Gleptoforte Dosage on Suckling Pig Hematological Criteria

	Dosage, mg/ml						SEM	Probability, P <		
	0	50	100	150	200	200 + 100		Linear ¹	Quadratic ²	200 vs. 200 + 100 ³
Hgb (g/dl) ⁴										
Day 3 ⁵	8.4	8.3	8.3	8.3	8.2	8.4	0.250	0.719	0.850	0.613
Day 11 ⁶	5.7	8.3	9.9	10.1	10.7	10.5	0.235	0.001	0.001	0.703
Day 21	4.6	6.8	9.3	11.3	12.0	12.8	0.217	0.001	0.001	0.011
Hct (%) ⁴										
Day 3	28.0	27.1	27.6	27.4	27.4	28.0	0.806	0.809	0.749	0.699
Day 11	20.0	29.2	34.3	35.8	36.5	36.2	0.660	0.001	0.001	0.722
Day 21	16.0	23.4	30.9	37.3	38.8	40.9	0.715	0.001	0.001	0.046
Serum Fe (µg/dl) ⁴										
Day 3	26	24	30	29	25	24	3.82	0.816	0.463	0.838
Day 11	19	29	101	149	162	157	8.73	0.001	0.558	0.675
Day 21	22	15	25	53	86	113	7.85	0.001	0.001	0.019
TIBC(µg/dl) ⁴										
Day 3	252	248	216	236	242	223	13.78	0.454	0.166	0.351
Day 11	698	536	442	417	406	421	22.77	0.001	0.001	0.669
Day 21	726	667	519	479	415	398	27.43	0.001	0.3446	0.670

¹Linear comparison of 0 mg to 200 mg dosage.; ²Quadratic comparison of 0 mg to 200 mg dosage.; ³Pairwise comparison between mean of 200 mg and 200 + 100 mg treatments.; ⁴Trt x day interaction (P < 0.001).; ⁵Represents 3 d after farrowing.; ⁶Represents 11 d after farrowing.

Conclusion

- Piglets receiving no iron had the poorest growth and blood parameters.
- Piglets that received 100 mg of Gleptoforte had the greatest growth performance.
- 200 mg + 100 mg booster improved hematological criteria, but did not impact growth performance compared to 200 mg.

