

Effect of increasing GleptoForte dosage in newborn pigs on sow and litter performance

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Introduction

- Newborn piglets are susceptible to iron deficiency due to inadequate store of iron at birth
- Iron deficiency can lead to a causes decreased growth performance, lethargy, and death
- Iron supplementation at birth has typically been administered via Iron Dextran in an effort to prevent anemia and improve the overall performance
- A new product, Gleptoforte (Ceva Animal Health, LLC., Lenexa, KS), contains gleptoferron and is also used to prevent anemia in newborn piglets

Objective

Evaluate the effectiveness of increasing Gleptoforte dosage in newborn suckling pig performance

Experimental Procedures

- A total of 336 pigs from 28 litters were equalized from farrowing and used in a 21 d study.
- On day 3, 12 piglets (6 barrows and 6 gilts) from each litter were allotted in a completely randomized design totaling 56 pigs per treatment.
- Treatments included a negative control with no injection and increasing levels of iron from Gleptoforte of 50, 100, 150, 200, or 200 mg plus an additional 100 mg booster on d 11 of farrowing.
- Piglets were weighed on d 3 (processing), d 11, and weaning (d 21) to calculate ADG
- All barrows were utilized for blood collection via jugular venipuncture on d 3 (processing), d 11, and weaning (d 21)
- Blood criteria measured included: Hemoglobin (Hgb), Hematocrit (Hct), Serum Fe, and Total Iron Binding Capacity (TIBC).

Experimental Results

Table 2. Effects of Gleptoforte dosage on suckling pig hematological criteria¹

	Dosage, mg/ml ²						Probability, P <			
	0	50	100	150	200	200 + 100 ³	SEM	Linear ⁴	Quadratic ⁵	200 vs. 200 + 100 ⁶
Hgb (g/dl) ⁷										
d 3 ⁸	8.4	8.3	8.3	8.3	8.2	8.4	0.250	0.719	0.850	0.613
d 11 ⁹	5.7	8.3	9.9	10.1	10.7	10.5	0.235	0.001	0.001	0.703
d 21	4.6	6.8	9.3	11.3	12.0	12.8	0.217	0.001	0.001	0.011
Hct (%) ⁷										
d 3	28.0	27.1	27.6	27.4	27.4	28.0	0.806	0.809	0.749	0.699
d 11	20.0	29.2	34.3	35.8	36.5	36.2	0.660	0.001	0.001	0.722
d 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) ⁷										
d 3	26	24	30	29	25	24	3.82	0.816	0.463	0.838
d 11	19	29	101	149	162	157	8.73	0.001	0.558	0.675
d 21	22	15	25	53	86	113	7.85	0.001	0.001	0.019
TIBC (µg/dl) ⁷										
d 3	252	248	216	236	242	223	13.78	0.454	0.166	0.351
d 11	698	536	442	417	406	421	22.77	0.001	0.001	0.669
d 21	726	667	519	479	415	398	27.43	0.001	0.3446	0.670

¹A total of 336 suckling pigs (DNA 241 × 600) were used in a 21 d suckling experiment with 12 pigs per sow and 2 pigs within each sow individually treated for a total of 56 pigs per treatment. All barrows were bled at each of the timepoints to measure hematological criteria.

²Gleptoforte (Ceva Animal Health, LLC., Lenexa, KS) dosage administered 3 d after farrowing.

³Pigs were administered 200 mg at beginning of trial and 100 mg 11 d after farrowing.

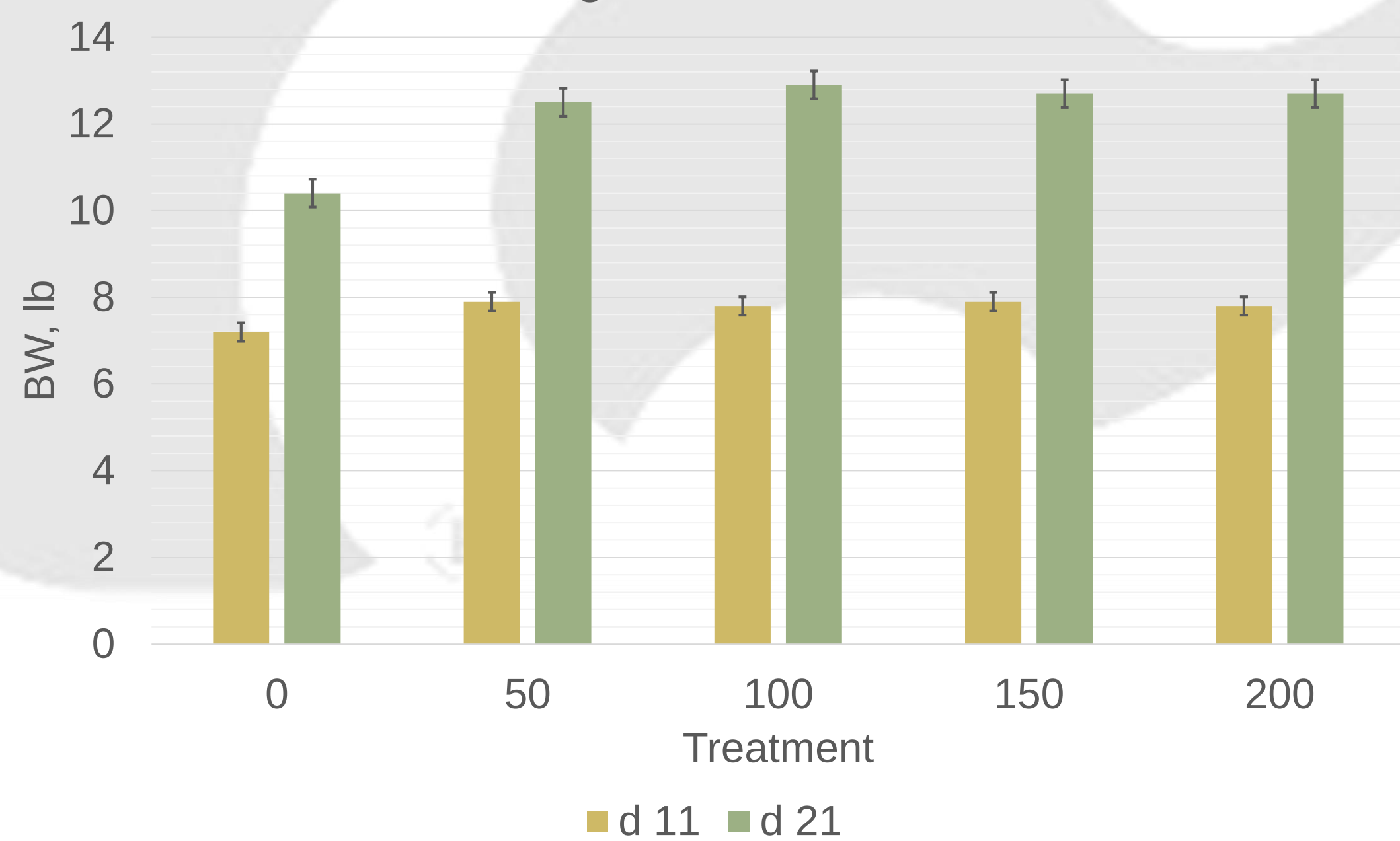
⁴Linear comparison of 0 mg to 200 mg dosage.

⁵Quadratic comparison of 0 mg to 200 mg dosage.

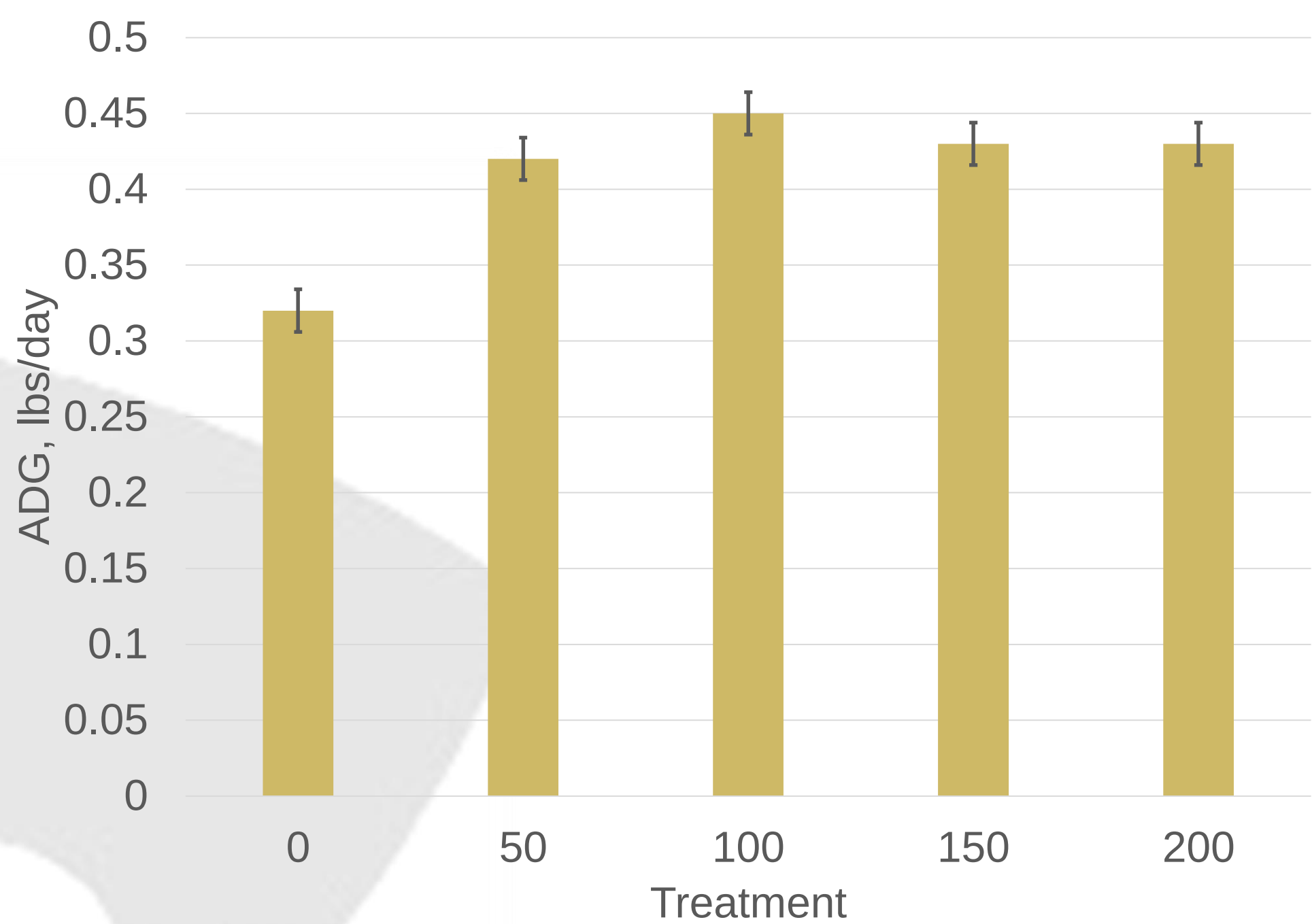
⁶Pairwise comparison between mean of 200 mg and 200 + 100 mg treatments.

⁷Trt × day interaction ($P < 0.001$).

Effects of Gleptoforte Dosage on Suckling Pig Body Weight Performance



Effects of Gleptoforte Dosage on Suckling Pig ADG Performance



Conclusions / Implications