

157 Effects of dietary corn distillers dried grains with solubles withdrawal on finishing pig performance and carcass characteristics. Annie B. Lerner¹, Mike D. Tokach¹, Jason C. Woodworth¹, Joel M. DeRouchey¹, Steve S. Dritz¹, Robert D. Goodband¹, Chad W. Hastad², Kyle F. Coble³, Emily K. Arkfeld⁴, Hilda Calderon Cartagena¹, Christopher I. Vahl¹, ¹*Kansas State University*, ²*New Fashion Pork*, ³*JBS Live Pork*, ⁴*Triumph Foods*

Two experiments evaluated the effects of removing corn DDGS from diets at increasing intervals before harvest on finishing pig performance and carcass characteristics. For Exp. 1, 985 pigs [PIC TR4×(Fast LW×PIC L02); initially 99 kg BW] were used in a 28-d study. There were 12 pens/treatment and four treatments decreasing in duration of DDGS withdrawal before marketing: 28, 21, 14, or 0 d. All pens were marketed by removing the 17% heaviest pigs on d -21 with remaining pigs marketed at final barn dump (d 0). Overall, there was no evidence for effects of DDGS withdrawal on final BW, ADFI, or G:F ($P > 0.112$); however, as withdrawal time increased, ADG increased (linear, $P = 0.022$) and iodine value (IV) decreased (linear, $P = 0.001$). There was no evidence for differences for HCW or loin depth ($P > 0.106$); however, yield increased (linear, $P = 0.001$) with increasing withdrawal time. Backfat depth decreased (quadratic; $P = 0.019$) and percentage lean increased (quadratic; $P = 0.033$) as DDGS withdrawal time increased. In Exp. 2, 1,158 pigs (initially 105 kg BW) were used in a 35-d study. There were 15 pens/treatment and four treatments decreasing in duration of DDGS withdrawal: 35, 28, 14, or 0 d. All pens were marketed by removing the 15% heaviest pigs on d -28, the 28% next heaviest pigs on d -14, with final barn dump of approximately 57% of starting inventory (d 0). There was no evidence that final BW, overall ADG, or G:F differed across treatments with increasing DDGS withdrawal times ($P > 0.116$). Overall ADFI increased (linear, $P = 0.015$) as time withdrawn from DDGS increased. Iodine value decreased (linear; $P = 0.001$) and yield increased (linear; $P = 0.034$) with increasing withdrawal time, with no evidence for differences in HCW, backfat, loin depth, or percentage lean ($P > 0.05$). These experiments suggest that longer withdrawal of DDGS prior to marketing improves carcass yield and decreases IV.

Table 1. Effects of dietary corn distillers dried grains with solubles withdrawal on finishing pig performance and carcass characteristics

Item	DDGS diet withdrawal before market, d				SEM	Probability, $P =$	
	28	21	14	0		Linear	Quadratic
Growth performance, Exp. 1							
ADG, kg	1.07	1.04	1.02	1.02	0.014	0.022	0.202
ADFI, kg	2.96	2.92	2.90	2.87	0.041-0.043	0.112	0.729
G:F	0.361	0.357	0.354	0.357	0.004	0.479	0.245
Final BW, kg	127.1	126.5	125.6	125.8	0.94-0.98	0.328	0.476
Carcass characteristics, Exp. 1							
HCW, kg	95.3	94.6	94.1	93.7	0.80-0.81	0.166	0.702
Yield, %	75.8	75.5	75.6	74.7	0.18	0.001	0.256
Lean, %	54.9	54.6	54.5	54.7	0.11	0.214	0.033
Iodine value	71.0	71.3	71.3	73.0	0.25-0.26	0.001	0.069
Growth performance, Exp. 2							
DDGS diet withdrawal before market, d							
	35	28	14	0	SEM	Linear	Quadratic
ADG, kg	1.05	1.04	1.05	1.02	0.012	0.116	0.480
ADFI, kg	3.22	3.18	3.15	3.10	0.035	0.015	0.854
G:F	0.327	0.329	0.334	0.331	0.003	0.216	0.223
Final BW, kg	135.8	134.9	136.6	136.0	0.810	0.481	0.829
Carcass characteristics, Exp. 2							
HCW, kg	101.0	100.6	100.8	100.6	0.47	0.610	0.913
Yield, %	75.0	74.9	74.7	74.5	0.18	0.034	0.898
Lean, %	54.3	54.3	54.5	54.3	0.09-0.10	0.759	0.388
Iodine value	68.1	69.3	70.1	71.7	0.37	0.001	0.971

¹Adjusted for hot carcass weight.

Key words: DDGS, finishing pigs, growth