

Effect of feeding diets containing corn dried distillers grains with soluble (DDGS) and beef tallow to growing-finishing pigs on fresh and processed pork shelf life characteristics

J.M. Popowski, R.B. Cox, J.M. Pomeranke, G.C. Shurson, and R. LaBerge
University of Minnesota, St. Paul, MN

The objective of this study was to determine the effects of feeding corn dried distiller’s grains with and without supplemental beef tallow to growing-finishing swine on shelf-life of fresh ground pork and fresh pork sausage. Dietary treatments consisted of a conventional corn-soybean diet (CON), CON containing 30% DDGS(DDG), CON containing 5% beef tallow (TAL) and CON with 30% DDGS and 5% tallow (TDG). Fresh pork picnic shoulders were removed 24h postmortem and bone was removed to produce uniform lean trim. Pork trim was ground twice (0.375 cm) and each ground pork block per animal was divided into two (0.91kg) batches; one for fresh evaluation (FRESH) and one for fresh sausage production and evaluation (SAUSAGE). FRESH and SAUSAGE samples were spread evenly in a retail polystyrene tray, covered with PVC film and stored at 4°C under cool white fluorescent lighting. Surface L*, a* and b* colorimetric values were taken using a Hunter MiniScan XE Plus Spectrophotometer every 24 h for 14 d starting at day 0. Each tray measurement was taken in triplicate to ensure uniformity of sampling. Results indicate that inclusion of beef tallow in diets containing DDGS may improve shelf life color characteristics, however, further research is required.

Table 1. Colorimetric L*, a* and b* values for fresh ground pork and pork sausage in retail shelf conditions from swine fed conventional CON, DDG, TAL, and TDG during the growing-finishing period.

	<u>FRESH</u>			<u>SAUSAGE</u>		
	L*	a*	b*	L*	a*	b*
CON	49.79 ^a	1.44 ^a	12.18 ^a	46.62	2.69 ^a	13.05 ^a
DDG	47.96	1.51 ^a	14.17 ^a	42.62	3.26 ^a	13.37 ^a
TAL	49.65 ^a	2.04 ^b	12.12 ^a	45.65	3.36 ^a	13.52
TDG	48.22 ^a	1.70 ^b	11.66 ^a	43.60	3.66 ^a	12.38 ^a

^{a,b} Means within a column lacking a common superscript letter differ significantly (p < 0.05).