

**Effects of dietary supplementation of pioglitazone or walnut meal on metabolic profiles and oxidative status in dairy cows with high pre-calving BCS**

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SUPPLEMENTARY FILE

Supplementary Table S1 Ingredients and chemical composition of experimental diets

Ingredient, % of DM	Experimental diets <sup>1</sup>		
	CTR	WM	PGT
Corn silage	13.01	13.44	13.01
Alfalfa hay	28.42	28.49	28.42
Barley grain, ground	10.20	10.24	10.20
Corn grain, ground	20.41	20.47	20.41
Soybean meal	8.78	-	8.78
Canola meal	4.50	4.51	4.50
Cotton seed	5.20	5.21	5.20
Fish meal	1.92	1.93	1.92
Soybean seed –Extruded	2.86	2.30	2.86
Calcium carbonate	0.75	0.76	0.75
Dicalcium phosphate	0.36	0.35	0.36
Magnesium oxide	0.17	0.18	0.17
Mineral & vitamin premix <sup>2</sup>	1.54	1.55	1.54
Salt	0.37	0.37	0.37
Sodium bicarbonate	0.75	0.76	0.75
Fat	0.75	-	0.75
Walnut meal	-	9.45	-
Chemical composition <sup>3</sup>			
DM (%)	48.5 (0.05)	48.5 (0.09)	48.5 (0.05)
CP (% of DM)	17.0 (0.09)	17.1 (0.20)	17.0 (0.09)
NDF (% of DM)	37.9 (0.80)	37.6 (0.20)	37.9 (0.80)
ADF (% of DM)	17.1 (0.20)	17.2 (0.30)	17.1 (0.20)
Ether extract (% of DM)	4.54 (0.02)	4.57 (0.09)	4.54 (0.02)
Ash (% of DM)	9.84 (0.05)	8.57 (0.30)	9.84 (0.05)
NFC <sup>4</sup> (% of DM)	30.72 (0.05)	32.16 (0.07)	30.72 (0.05)
NE <sub>L</sub> (Mcal/kg of DM)	1.61	1.63	1.61

<sup>1</sup> CTR = basal diet provided for fresh dairy cows, WM= diet containing 9.45% walnut meal, PGT = basal diet supplemented with 6 mg/kg BW pioglitazone.

<sup>2</sup> Contains 500,000IU of vitamin E., 15,000,000 IU of vitamin A., 400,000IU of vitamin D3, and 6000IU of vitamin E per kilogram.

<sup>3</sup> Standard deviations are within parentheses.

<sup>4</sup> NFC= 100-(CP+NDF+Ether extract+Ash).

Supplementary Table S2. Ingredients, chemical composition, omega-6 and omega-3 fatty acids content, and antioxidant potential of walnut meal (n=3).

Chemical composition (% of DM)	(Mean±SD)
DM	96.47± 0.05
CP	48.14±0.20
EE	10.94±0.20
NDF	7.25±0.05
ADF	3.78±0.03
TP <sup>1</sup>	11.22±1.12
TT <sup>2</sup>	3.74±1.12
Ash	5.81±0.18
Omega-6 fatty acids	5.85±0.002
Omega-3 fatty acids	1.25±0.004
NE <sub>L</sub> (MJ/kg of DM) <sup>3</sup>	3.14±0.10
DPPH (%) <sup>4</sup>	85.16±0.08
BHT (%) <sup>5</sup>	57.68±0.06

<sup>1</sup> Total phenolic compound

<sup>2</sup> Total tannin

<sup>3</sup> NE<sub>L</sub>: was calculated based the 24 h in vitro gas production and the regression equation (-0.36+0.1149 GP+0.0054 CP+0.0139 CF-0.0054 CA).

<sup>4</sup> Radical scavenging activity of walnut meal by the 1, 1-diphenyl-2-picrylhydrazyl (DPPH) method (Brand-Williams et al. 1995).

<sup>5</sup> Butylated hydroxytoluene was used as a synthetic antioxidant control.