Corrigendum to “Use of indirect calorimetry to evaluate utilization of energy in lactating Jersey dairy cattle consuming diets with increasing inclusion of hydrolyzed feather meal” (J. Dairy Sci. 103:4206–4217)

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Tissue energy was calculated incorrectly. The corrected equation is listed below, as well as a corrected Table 3, with corrected tissue energy and NE_L values calculated using tissue energy (corrected text shown in bold).

$$\text{Tissue energy (Mcal of NEL/d)} = \text{positive residual energy} \times k_G/k_T \text{ or negative residual energy} \times k_T, \quad [5]$$

where k_T is the efficiency of utilizing body reserves for milk energy production, and k_G is the efficiency of utilizing ME intake for tissue gain.

Table 3. Effects of treatments containing hydrolyzed feather meal fed to lactating Jersey cows on O_2 consumption, CO_2 and CH_4 production, respiratory quotient, and energy utilization

Item ¹	Treatment ^{2,3}					P-value ⁴		
	0HFM	3.3HFM	6.7HFM	10HFM	SEM	L	Q	C
Gas								
O_2 consumption, L/d	4,761	4,822	4,826	4,616	163	0.11	0.03	0.56
CO_2 production, L/d	4,884	4,954	4,959	4,707	193	0.11	0.03	0.55
CH_4 production, L/d	420	434	433	403	24	0.30	0.06	0.75
RQ	1.025	1.025	1.027	1.019	0.012	0.50	0.48	0.56
Component, Mcal/d								
Feces	28.2	29.4	29.3	28.0	1.46	0.85	0.06	0.96
Methane	4.12	4.25	4.24	3.94	0.235	0.29	0.07	0.75
Urine	2.08	2.15	2.21	1.95	0.131	0.46	0.13	0.55
Heat ⁵	23.8	24.1	24.2	23.1	0.84	0.13	0.03	0.58
Milk	25.3	25.2	26.6	25.0	1.17	0.90	0.37	0.21
Tissue	−1.01	0.57	−0.02	−0.05	1.27	0.64	0.47	0.58
Fraction, Mcal/d								
GE	82.2	85.7	86.4	81.9	3.42	0.95	0.02	0.75
DE	54.1	56.3	57.1	53.9	2.12	0.98	0.03	0.64
ME	47.9	49.9	50.7	48.0	1.87	0.84	0.04	0.67
NE_L⁶	32.0	33.5	34.4	32.6	1.33	0.47	0.06	0.55
Fraction, Mcal/kg of DM								
GE	4.21	4.23	4.26	4.29	0.019	<0.01	1.00	0.99
DE	2.77	2.79	2.82	2.84	0.039	0.02	0.87	0.73
ME	2.45	2.47	2.50	2.53	0.040	0.02	0.97	0.86
NE_L⁶	1.64	1.66	1.70	1.71	0.036	0.01	0.78	0.62

¹GE = gross energy; DE = digestible energy; RQ = respiratory quotient, CO_2 production/ O_2 consumption, L/L.

²Treatments: 0HFM = 0% hydrolyzed feather meal; 3.3HFM = 3.3% hydrolyzed feather meal; 6.7HFM = 6.7% hydrolyzed feather meal; 10HFM = 10% hydrolyzed feather meal.

³Least squares means; largest standard error of treatment mean is shown.

⁴L = linear; Q = quadratic; C = cubic.

⁵Heat = $3.866 \times O_2 + 1.200 \times CO_2 - 0.518 \times CH_4 - 1.431 \times N$ (Brouwer, 1965).

⁶ $NE_L = 0.080 \times BW^{0.75} + \text{milk energy} + \text{tissue energy corrected for efficiency of conversion to milk energy}$ (NRC, 2001).

REFERENCE

Morris, D. L., J. V. Judy, and P. J. Kononoff. 2020. Use of indirect calorimetry to evaluate utilization of energy in lactating Jersey dairy cattle consuming diets with increasing inclusion of hydrolyzed feather meal. J. Dairy Sci. 103(5):4206–4217. <https://doi.org/10.3168/jds.2019-17762>.