

**SUPPLEMENTAL TABLE 1**

Feed intake over the experimental period in control or arginine-treated ewes carrying multiple fetuses<sup>1</sup>

Week of pregnancy	Feed intake	
	Control (n = 14)	Arginine (n = 20)
	<i>g/(kg body weight · d)</i>	
6	17.3 ± 0.22 <sup>c</sup>	17.5 ± 0.37 <sup>e</sup>
7	17.5 ± 0.30 <sup>c</sup>	17.5 ± 0.30 <sup>e</sup>
8	17.6 ± 0.37 <sup>c</sup>	17.5 ± 0.35 <sup>e</sup>
9	17.2 ± 0.31 <sup>c</sup>	17.4 ± 0.33 <sup>e</sup>
10	17.2 ± 0.29 <sup>c</sup>	17.1 ± 0.30 <sup>fe</sup>
11	16.7 ± 0.26 <sup>dc</sup>	16.7 ± 0.27 <sup>fg</sup>
12	16.5 ± 0.26 <sup>d</sup>	16.8 ± 0.28 <sup>fg</sup>
13	16.5 ± 0.22 <sup>d</sup>	16.5 ± 0.25 <sup>g</sup>
14	16.1 ± 0.24 <sup>d</sup>	16.2 ± 0.26 <sup>g</sup>
15	25.8 ± 0.43 <sup>a</sup>	26.2 ± 0.57 <sup>a</sup>
16	25.7 ± 0.46 <sup>a</sup>	25.2 ± 0.44 <sup>b</sup>
17	24.8 ± 0.34 <sup>b</sup>	24.6 ± 0.35 <sup>c</sup>
18	24.8 ± 0.50 <sup>b</sup>	24.3 ± 0.40 <sup>cd</sup>
19	24.8 ± 0.49 <sup>b</sup>	24.6 ± 0.44 <sup>c</sup>
20	24.1 ± 0.55 <sup>b</sup>	24.2 ± 0.52 <sup>cd</sup>
21	24.8 ± 0.71 <sup>b</sup>	23.9 ± 0.52 <sup>d</sup>

<sup>1</sup>Data are means ± SEM. Means in a column with superscripts without a common letter differ,  $P < 0.05$ .

**SUPPLEMENTAL TABLE 2**

Body weights of control and arginine-treated ewes from weeks  
6 to 21 of pregnancy<sup>1</sup>

Week of pregnancy	Body weight of ewes	
	Control (n = 14)	Arginine (n = 20)
	<i>kg</i>	
6	68.2 ± 1.5 <sup>k</sup>	68.8 ± 2.2 <sup>k</sup>
7	67.0 ± 1.7 <sup>k</sup>	66.5 ± 2.0 <sup>k</sup>
8	67.8 ± 1.9 <sup>k</sup>	67.2 ± 2.0 <sup>jk</sup>
9	69.0 ± 1.8 <sup>jk</sup>	68.6 ± 2.0 <sup>ij</sup>
10	70.8 ± 1.7 <sup>ij</sup>	70.6 ± 1.9 <sup>hi</sup>
11	72.5 ± 1.9 <sup>hi</sup>	72.6 ± 2.0 <sup>gh</sup>
12	74.1 ± 1.8 <sup>gh</sup>	73.7 ± 1.9 <sup>fg</sup>
13	75.6 ± 1.8 <sup>fg</sup>	75.2 ± 1.9 <sup>ef</sup>
14	76.5 ± 1.6 <sup>ef</sup>	76.5 ± 1.9 <sup>de</sup>
15	77.8 ± 1.5 <sup>e</sup>	78.1 ± 1.9 <sup>d</sup>
16	81.1 ± 1.7 <sup>d</sup>	81.6 ± 2.0 <sup>c</sup>
17	83.5 ± 1.6 <sup>c</sup>	84.3 ± 2.1 <sup>b</sup>
18	83.4 ± 2.1 <sup>c</sup>	85.2 ± 2.3 <sup>b</sup>
19	85.6 ± 2.2 <sup>bc</sup>	87.6 ± 2.5 <sup>a</sup>
20	86.9 ± 3.0 <sup>ab</sup>	87.7 ± 2.9 <sup>a</sup>
21	86.8 ± 3.8 <sup>ab</sup>	89.9 ± 3.5 <sup>a</sup>

<sup>1</sup>Data are means ± SEM. Means in a column with superscripts without a common letter differ,  $P < 0.05$ .

SUPPLEMENTAL TABLE 3

Concentrations of amino acids in serum on d 100, 121 and 140 of pregnancy in control ewes with different litter sizes<sup>1</sup>

Amino acid	Day of pregnancy			<i>P</i> value	Litter size			<i>P</i> value
	100 (n = 14)	121 (n = 14)	140 (n = 14)		Twins (n = 3)	Triplets (n = 7)	Quadruplets (n = 4)	
	$\mu\text{mol/L}$				$\mu\text{mol/L}$			
Aspartate	4.8 ± 0.6	4.3 ± 0.6	4.5 ± 0.8	0.57	5.1 ± 1	4.8 ± 0.7	3.8 ± 1	0.62
Glutamate	84 ± 4 <sup>b</sup>	108 ± 4 <sup>a</sup>	47 ± 6 <sup>c</sup>	<0.01	89 ± 6	81 ± 4	68 ± 6	0.07
Asparagine	39 ± 3 <sup>a</sup>	29 ± 3 <sup>b</sup>	29 ± 4 <sup>ab</sup>	0.04	34 ± 5	34 ± 3	28 ± 5	0.57
Serine	65 ± 5	66 ± 4	54 ± 6	0.14	61 ± 7	67 ± 5	58 ± 7	0.58
Glutamine	189 ± 10 <sup>a</sup>	136 ± 10 <sup>b</sup>	221 ± 15 <sup>a</sup>	<0.01	194 ± 13	189 ± 9	163 ± 15	0.26
Histidine	36 ± 3	37 ± 3	39 ± 3	0.61	36 ± 5	35 ± 3	41 ± 4	0.62
Glycine	369 ± 23	342 ± 23	343 ± 37	0.50	391 ± 42	292 ± 26	372 ± 38	0.10
Threonine	76 ± 9 <sup>a</sup>	71 ± 8 <sup>a</sup>	42 ± 11 <sup>b</sup>	0.03	77 ± 15	47 ± 10	65 ± 14	0.27
Citrulline	114 ± 12	114 ± 11	88 ± 15	0.20	128 ± 20	98 ± 13	90 ± 19	0.37
Arginine	144 ± 8	149 ± 8	157 ± 9	0.17	154 ± 15	139 ± 10	157 ± 13	0.49
β-Alanine	10 ± 1 <sup>b</sup>	12 ± 1 <sup>a</sup>	14 ± 1 <sup>a</sup>	<0.01	11 ± 2	12 ± 1	13 ± 2	0.76
Taurine	133 ± 9 <sup>a</sup>	99 ± 9 <sup>b</sup>	95 ± 12 <sup>b</sup>	<0.01	110 ± 15	97 ± 10	120 ± 14	0.42
Alanine	159 ± 17	157 ± 17	153 ± 22	0.94	147 ± 31 <sup>ab</sup>	211 ± 21 <sup>a</sup>	111 ± 29 <sup>b</sup>	0.04
Tyrosine	67 ± 9	70 ± 9	60 ± 13	0.75	52 ± 16 <sup>b</sup>	96 ± 11 <sup>a</sup>	50 ± 15 <sup>b</sup>	0.04
Tryptophan	28 ± 3	28 ± 3	24 ± 4	0.47	29 ± 5	29 ± 3	22 ± 4	0.48
Methionine	14 ± 2	15 ± 1	14 ± 2	0.73	13 ± 3	16 ± 2	15 ± 2	0.67
Valine	94 ± 10	98 ± 10	93 ± 12	0.88	83 ± 18	107 ± 12	93 ± 16	0.51
Phenylalanine	34 ± 3	37 ± 3	36 ± 3	0.37	33 ± 5	38 ± 3	36 ± 5	0.73
Isoleucine	57 ± 7	68 ± 6	76 ± 9	0.24	51 ± 8 <sup>b</sup>	87 ± 5 <sup>a</sup>	63 ± 8 <sup>b</sup>	0.03
Leucine	77 ± 8 <sup>b</sup>	92 ± 8 <sup>a</sup>	103 ± 10 <sup>a</sup>	0.04	77 ± 14	99 ± 9	96 ± 13	0.44
Ornithine	50 ± 5 <sup>a</sup>	43 ± 5 <sup>a</sup>	28 ± 7 <sup>b</sup>	0.02	48 ± 9	34 ± 6	39 ± 8	0.46
Lysine	100 ± 9 <sup>a</sup>	89 ± 9 <sup>ab</sup>	71 ± 12 <sup>b</sup>	0.04	84 ± 17	83 ± 11	93 ± 15	0.87
Cysteine	93 ± 2 <sup>a</sup>	87 ± 2 <sup>b</sup>	82 ± 3 <sup>b</sup>	<0.01	101 ± 4 <sup>a</sup>	86 ± 3 <sup>b</sup>	75 ± 4 <sup>c</sup>	<0.01
Proline	109 ± 2 <sup>a</sup>	99 ± 2 <sup>b</sup>	88 ± 2 <sup>c</sup>	<0.01	124 ± 4 <sup>a</sup>	94 ± 3 <sup>b</sup>	78 ± 4 <sup>c</sup>	<0.01

<sup>1</sup>Data are means ± SEM. Means in a row with superscripts without a common letter differ, *P* < 0.05.