

S4 Table. The adjusted nitrogen balances generated from the model under recommended feeding regime of 1.72g/Kg BW/day compared with double this rate at 3.0g/Kg BW/day for a 500Kg horse where the animal was undertaking a heavy work load and the protein turnover rate was 4 g/kg/day.

Amino acid	Adjusted nitrogen balance Protein intake 1.7g/Kg BW/day g	Adjusted nitrogen balance Protein intake 3.0g/Kg BW/day g
Histidine	2.5	4.1
Serine	-3.0	0.3
Glycine	1.8	5.3
Ornithine	-3.4	-3.4
Lysine	5.5	8.0
Threonine	3.4	5.9
Valine	5.5	9.0
Leucine	17.4	22.9
Isoleucine	2.9	5.6
Glx	-5.7	7.5
Aspartic acid	12.4	19.7
Methionine	2.2	3.2
Tyrosine	4.2	6.5
Phenylalanine	6.7	10.1
Proline	15.6	23.3
Alanine	9.4	13.8