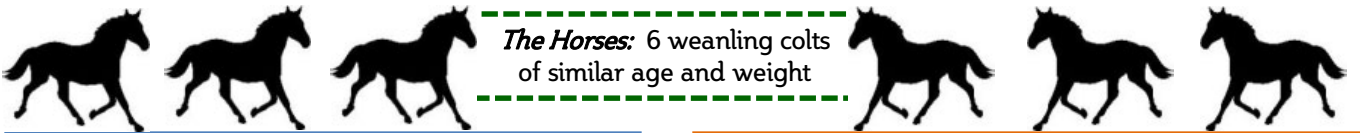




Muscle Matters: The Right Protein for Weanlings

Protein, made up of individual amino acids, is essential for muscle, ligament and tissue development and maintenance, especially in young, growing horses. Limiting certain amino acids such as lysine will inhibit this process, but what other amino acids may be limiting in the growing horse? Researchers at the University of Kentucky set out to answer this question.

Objective: To compare protein synthesis in weanling horses fed a ration formulated to either meet or exceed current crude protein requirements.



The Horses: 6 weanling colts of similar age and weight

Reduced Crude Protein & Alfalfa Cubes
(met requirements for crude protein)

BUCKEYE® Nutrition Growth & Alfalfa Cubes
(exceeded requirements for crude protein)

Diets fed were balanced for lysine and methionine

Greater post-meal plasma lysine and methionine but lower threonine

Lower post-meal plasma lysine and methionine but higher threonine

Whole-body protein synthesis determined

Reduced protein synthesis =
Limiting amino acid(s), possibly threonine,
not sufficiently provided in the diet

Greater protein synthesis =
Sufficient amino acid(s) in the diet



Take Home Message

Diets that meet crude protein requirements may be deficient in specific amino acids, such as threonine, which are needed for protein synthesis in weanling horses.

“Dietary crude protein intake influences rates of whole-body protein synthesis in weanling horses” by S.L. Tanner, A.L. Wagner, R. N. Digianantonio, P.A. Harris, J.T. Sylvester, & K.L. Urschel was published in June, 2014 in The Veterinary Journal.