

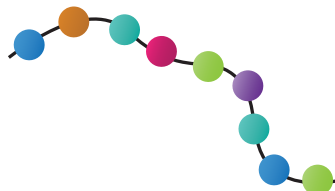
# AMINO ACIDS IN HORSES

Amino acids are the **BUILDING BLOCKS OF PROTEIN**

and are essential for the growth and health of bones, muscles and soft tissue.



Group of amino acids (AA)



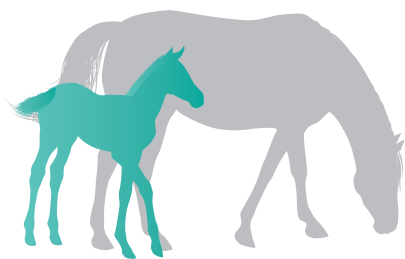
**Peptide**  
Short chain of AAs



**Protein**  
Long chain of AAs

The order of AAs will determine the protein's shape and function.

GROWING HORSES NEED MORE AMINO ACIDS.



## ESSENTIAL AMINO ACIDS

are the 10 amino acids that are not created in the horse's body and must be supplied via external sources.

## EXTERNAL SOURCES:

FORAGE

GRAIN

SUPPLEMENTS

Alfalfa is a top amino acid source.



Poulin Grain fortified horse feeds contain added amino acids.

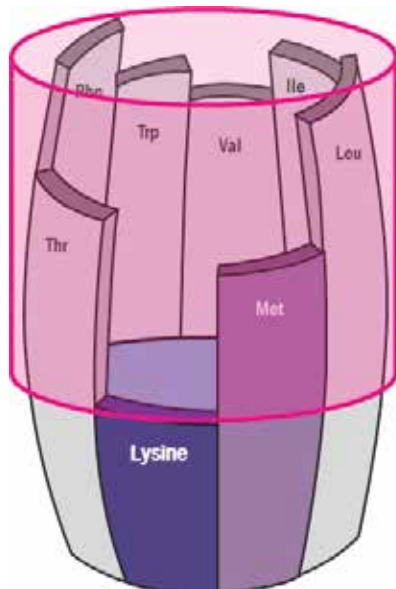
## LYSINE

IS THE FIRST KNOWN **LIMITING AMINO ACID.**

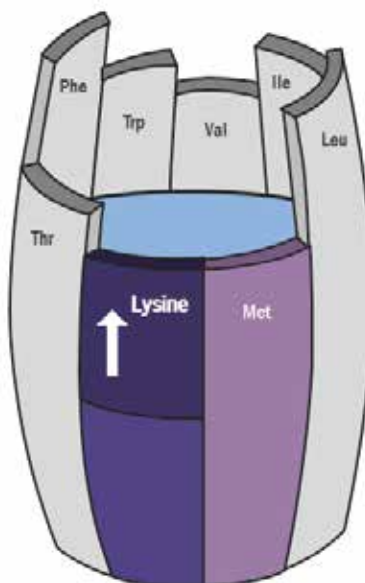
**LYSINE** IS THE ONLY AMINO ACID WITH A **REQUIREMENT**

therefore it is the only amino acid that provides value when listed on a feed tag (making other amino acid levels irrelevant, especially in the case of Lysine deficiency).

## UNBALANCED



## BALANCED



**UNBALANCED**  
When lysine is deficient other amino acids cannot be used effectively.

**BALANCED**  
Allows all other amino acids to be used effectively.

Nutritional Expertise  
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Leading Animal Nutrition

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