

Balancing Animal Diets

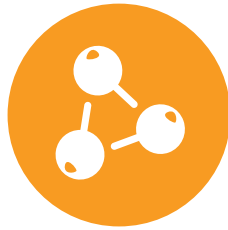
DIETS ARE MADE UP OF NUTRIENTS. A nutrient is any feed component or group of feed components with the same general chemical composition that aids in support of animal life. To meet an animal's needs, the ratio of ingredients must be formulated to include the proper amount and proportion of nutrients. These levels vary by species and specific purpose such as growth, maintenance, lactation or gestation. U.S. grains can contribute a combination of several nutrients to an overall balanced diet.

6 Basic Classes of Nutrients



WATER

- the most critical nutrient
- transports nutrients
- supports chemical reactions, temperature maintenance and lubrication within body



VITAMINS

- most have multiple functions in the body involving metabolism, enzyme reactions, etc.



MINERALS

- required for protein synthesis, oxygen transport, fluid and acid-base balance in body, enzyme reactions, building of bone
- requirements increase with animal's age
- both deficiencies and excesses can lead to disease



PROTEINS (AMINO ACIDS)

- needed for muscle development, metabolism, hormone, antibody and DNA production
- most expensive part of diet
- need decreases as animal matures
- converted to energy and, if fed in excess, fat



FATS (LIPIDS)

- high energy source
- insulates the body during cold
- cushions the body
- reduce dust in feed
- increase feed palatability



CARBOHYDRATES

- provide energy
- building blocks for other nutrients
- dietary excess stored as fat