

A decorative graphic consisting of a thin gold circle on the left side. A horizontal bar with a gold-to-white gradient extends from the circle across the top of the slide. The text 'Value of Protein in Diets' is centered within this bar. Large black and gold brackets are positioned on the left and right sides of the bar, respectively.

# Value of Protein in Diets

# [ Dietary Protein Priorities ]

## ⇒ Fluids:

- ☑ safe supply, use in preparation

## ⇒ Calories:

- ☑ primary sources are carbs and fat

## ⇒ Protein:

- ☑ spare for use as protein

## ⇒ Micronutrients:

- ☑ balanced with variety of sources

# [ Human Protein Needs ]

- ➔ Based on “nitrogen balance”
  - ☑ Provides for maintenance of protein levels according to intake = output
  - ☑ Validity/methods are tricky and interpretation is questioned: the body adapts
  - ☑ Obligatory nitrogen loss replacement vs. nitrogen balance vs. optimal growth, development, and rehabilitation
  - ☑ Potential for protein metabolism alterations are not always considered

# [ Dietary Protein: Demands ]

- ⇒ Maintenance of body pool and functions: largest amount needed
- ⇒ Growth, development at crucial points
- ⇒ Disease alterations in turnover and “shunting” to allow priority body functions, even to allow protein loss

# [ Not All Proteins are Alike ]

- ➔ Essential amino acids especially crucial to consider
  - ☑ Change in amino acid profile affects effectiveness of dietary protein intake to maintain nitrogen balance
- ➔ RDI is established using highly digestible and high quality protein
  - ☑ Lower quality protein means higher protein requirements
  - ☑ Study results vary widely in estimation of needs in special populations

# [ Protein Requirements ]

- ➔ Maintenance/balance
- ➔ Additional for deposition
  - ☑ Pregnancy/lactation
  - ☑ Growth, physical activity
- ➔ Additional for conditions of loss
  - ☑ Disease, injury, climate
- ➔ Non-protein nitrogen

# Contribution of Dietary Protein

- ⇒ Shore up deficient food supply
  - ☑ As ingredient
  - ☑ As fortificant
- ⇒ Maintain body in health and disease
  - ☑ Growth/development
  - ☑ Disease management
  - ☑ Health maintenance