

# Feed Evaluation

# Feed Evaluation

- The feed formulated is generally evaluated for its efficiency like (1) Feed Conversion Ratio (FCR), (2) Protein Efficiency Ratio (PER) (3) feed efficiency ratio (4) Net protein utilization and Biological value.

# Feed Conversion Ratio

- $FCR = \frac{\text{Food given (Supplementary feed + Natural feed)}}{\text{weight gain (g)}}$

# Protein Efficiency Ratio

**Protein Efficiency Ratio [PER]:** It is measure of weight gain/unit protein fed

$$\text{PER} = \frac{\text{weight gain (g)}}{\text{Protein fed on dry on dry wt. basis(g)}}$$

# feed efficiency ratio

- It is the reciprocal of FCR and convert in to per cent
- $FER = \text{weight gain} / \text{Food consumed} \times 100$

# Net protein utilization

- It is measure of the protein gain during an experimental period/ unit protein absorbed by the fish

$$\text{NPU} = (\text{Final body protein} - \text{Initial body protein}) / \text{Total protein fed} \times 100$$

# Biological value

➤ It has been defined as the "percentage of absorbed nitrogen retained in the body" and a complete evaluation of the dietary protein includes measurement of the Biological Value and the Digestibility.

➤ 
$$\text{Biological value} = \frac{I - (F - F_0) - (U - U_0)}{I - (F - F_0)} \times 100$$

where

I = Nitrogen intake of test protein

F = Faecal nitrogen

F<sub>0</sub> = Faecal nitrogen on nitrogen-free diet (Metabolic N)

U = Urinary nitrogen

U<sub>0</sub> = Urinary nitrogen on nitrogen-free diet (Endogenous N)