

4. Disease resistance of fishes is increased.
5. Body of fish grows rapidly.
6. Fries are free from nutrient deficiency diseases.
7. As a whole, it is possible to get more fish and economic benefits from the water body within the short period of time.

**Task:** Learners will collect some easily available feed ingredients and write down their name in note book.

### Nutrient requirement of fish and supplementary feed chart

Requirement of feed and nutrition may be varied on the basis of fish species, age and size. According to species, supplementary feed should be provided at the rate of 10-20% of the body weight for fry, 5-10% for fingerling, and 3-5% for adult fish. It is necessary to present various nutrients in the fish feed for healthy fish and their rapid bodily growth. Out of these ingredients, protein is important and valuable. It should be available enough in feed. That's why nutrient requirement of fish means mainly their protein requirement. Nutrients like carbohydrate, oil and minerals are more or less available in the ingredients used in fish feed. If protein requirement is met up in feed, other nutrients in feed will not fall short. According to species and the different stages of lifecycle, protein requirement will be 20-30% for carp or rui fish, 30-45% for shrimp and 35-45% for cat fish or magur.

When the fish production is continued in a pond by providing supplementary feed, amount of feed consumed by fish and amount of fish produced-can be calculated by the determination of feed conversion ratio or FCR. By this way, "which feed is better"- can be evaluated by FCR comparing with different feeds. FCR may be defined as the ratio of feed supply and the bodily growth of animal after feed consumption. Therefore, amount (kg) of feed provided for getting 1 kg body weight of fish is meant feed conversion ratio.

$$\text{FCR} = \frac{\text{Supplied feed for fish}}{\text{Bodily growth}}$$

Bodily growth= Total weight during harvesting fish – total weight during stocking (fry). For example, some fries of total 1 kg body weight are released in a pond. By providing regular feed, at the time of harvesting after 6 months, total 15 kg fishes are obtained. A total 21 kg feed has been supplied to the fish during the last six months.