

# Is The Higher The Fish Feed Protein Content The Better?

**Fish have low sugar utilization capacity. Protein is the main nutrient for fish growth, and most of it must be obtained from food. So the protein content of aquatic feed is generally much higher than that of poultry feed.**

1. Protein is the main nutritional index of compound feed for fish

The protein content in feed is one of the standards to measure the nutritional level of feed. But not that the higher the protein content, the higher the feed quality. Protein is the main nutritional index of fish compound feed. The level of protein directly affects the internal quality of fish feed.

Fish have low sugar utilization capacity. Protein is the main nutrient for fish growth, and most of it must be obtained from food. So the protein content of aquatic feed is generally much higher than that of poultry feed. Only in this way can the healthy growth of fish be guaranteed. Fish and shrimp are essentially not needed protein but need amino acids. But animals cannot synthesize amino acids from simple inorganic substances, they must obtain amino acids directly or indirectly from animal and plant food. Therefore, fish and shrimp compound feed made by floating fish feed extruder machine should not only pay attention to the quantity of protein, but also its quality.

Excessive protein content will not only cause waste of feed protein resources. But also cause liver and gallbladder disease, fish body obesity, intolerance of stress like human obesity. At the same time, it will also increase the pressure on pond water quality management. Fish can't metabolize too high protein content. And then, they will excrete more organic waste into the water body. And it not only increases the cost. But also it causes damage to the water environment, forming eutrophic fertilizer.

Too low protein content, on the one hand, will cause slow growth of fish and poor disease resistance. On the other hand, it will delay production opportunities. Too low protein content can not meet the physiological needs of the fish body, malnutrition, poor growth. And the feed coefficient will be high. And sometimes it will cause physical weakness and disease.



## 2. Fish with different diets and different growth stages have different feed protein nutrition.

Different fish types, different growth stages. And the optimal protein requirements are also different. Carnivorous fish need high-protein feeds, while Vegetarian fish have lower protein requirements. Appropriate protein content in general, Herbivorous Fish (such as grass carp) below 30%, Omnivorous 30~35% of fish (such as carp and crucian carp), Carnivorous Fish (such as catfish) 35~40%.

Fish at the seedling stage have higher nutritional requirements for protein. So, it can meet the urgent physiological needs of new life forms. For large fry or finished fish, you can appropriately reduce the nutritional level. Therefore, mastering the optimal protein level of fish feed is of great benefit to guiding fishery production.

Omnivorous fish such as carp and crucian. The optimal protein content of the feed at the water splash fry stage is 40%~45%, the optimal protein content of the seedling stage feed is 35%~40%, and the optimal protein content of the adult stage feed is 30%~35%.

The nutritional requirements of bream (also known as Wuchang fish) are similar to those of grass carp, and both are herbivorous fish. The optimum protein content of feed made by fish feed production line at the seedling stage is 30%~32%, and the optimum protein content of feed made by automatic fish feed extruder making machine at the adult stage is 25%~28%.

Catfish, mullet, etc. Carnivorous fish. The optimum protein content of feed in the seedling stage



is more than 40%. And the optimum protein content of feed in the adult stage is more than 35%.



3. Different water temperature should also adjust the protein content in the feed of floating catfish feed making equipment appropriately.

For example, the protein content should be relatively reduced in the hot season. Just like people, eat lighter in the hot summer to facilitate the digestion and absorption of fish. Otherwise, fatty liver will occur. Similarly, the low temperature season should relatively increase the protein content of the feed, just like people eat some dog meat and lamb in winter. Increase the heat accumulation of the fish body to dissolve the erosion of the freezing to the body. So as to ensure the energy required for fish metabolism and growth.

4. Fish feed protein index should be based on animal protein.

According to the source of raw materials, protein can be divided into two categories: animal protein and plant protein. Among them, fish meal, meat and bone meal and blood meal are rich in animal protein. Since the amino acids contained in these proteins are similar to those required for fish growth. This protein is not only a high absorption rate. But also has the advantages of fast absorption and low water pollution. Therefore, the protein of high-quality aquatic feed should be. This animal protein is mainly used. However, cottonseed meal, alfalfa meal, rapeseed meal, etc. mainly contain plant protein. Aquatic feed fish produced from this raw material has a low absorption rate, slow absorption, and serious water pollution.

In addition, in essence, the absorption and utilization of protein by fish is the utilization of essential amino acids. Because protein is composed of amino acids. Vegetable protein contains fewer essential amino acids for fish, which is the fundamental reason why aquatic feeds tend to emphasize animal protein. As long as this obstacle is overcome, aquafeeds can surpass the dependence on animal protein.