Diet: Fish Food (Part 1)

Feeding your fish a healthy diet.

By Neale Monks, Ph.D.

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Various livebearers feeding on a food tablet stuck to the front glass of an aquarium. Placing food tablets at various levels in the aquarium allows all inhabitants a chance to feed.
Photo by Tony Terceira

Fish food options
The food provided to your fish must be safe, nutritionally balanced and appropriate to the livestock.

Flake and pellet foods
Flake and pellet foods are available in a range of formulations designed for specific types of fish: community fish, saltwater fish, herbivores, carnivores and so on. These can form an excellent staple diet for most fish.

However, once exposed to air, the nutritional value of flake and pellets quickly declines; what was once appetizing and nutritious becomes stale and functionally worthless. Flake and pellet foods should be discarded within three months of opening.

Flake and pellets are often low in fiber, leading to constipation, and this in turn can cause swim bladder disorders and bloating in your fish. High-fiber foods such as Daphnia and vegetable foods will help to prevent this.Click image to enlarge

High-fiber foods such as Daphnia help to control constipation, which is often caused by flake or pellet foods.
Photo by Oliver Lucanus

Freeze-dried foods
Freeze-dried fish food contains valuable fiber, as well as an excellent balance of nutrients. Freeze-dried fish food can be used successfully either as the staple fish food item or as a supplement to flake and pellet foods. Freeze drying kills any potential pathogens, making such foods very safe, and most fish seem to find them highly palatable.

The key drawback is expense: compared with frozen fish foods, freeze-dried fish food costs a lot for what you actually get.

Frozen foods
Aquarium stores sell a wide variety of frozen fish food items ranging from zooplankton to whole fish. Though less expensive than live foods, frozen foods are just as readily accepted by aquarium fish. This makes them valuable for feeding fussy or predatory fish. Frozen fish food is also less likely to carry pathogens than live fish food, and some manufacturers irradiate the food to make sure that it is completely safe.

Because it is unprocessed, frozen fish food is nutritionally excellent and also tends to be high in fiber. No one fish food should be used exclusively, though, and it is a good idea to alternate between foods through the week: mysids one day, chopped mussel the next and so on. Frozen food-blends tailored for community fish, cichlid fish, saltwaterfish and so on sidestep this problem by including a carefully chosen mix of foods, sometimes with added green foods and vitamins.

Seafood sold for human consumption can also be used, including whitebait, squid, clams, mussels and prawns. Unshelled prawns and shrimp are of particular value for feeding triggerfish and pufferfish by wearing down their fast-growing teeth.

Feeder fish
Serving feeder fish as food is controversial, with many experienced aquarists rejecting them as unnecessary and unsafe, regardless of any ethical dimension. Cheap feeder fish are reared in squalid conditions and very likely to carry diseases and parasites, and should never be used. The most commonly sold feeder fish are minnows and goldfish, and these are too rich in fat and thiaminase to be of value. Over time the fat causes damage to the internal organs while the thiaminase breaks down vitamin B-1. Noted saltwater aquarist Bob Fenner has gone so far as to state that the use of feeder goldfish is the prime source of lionfish mortality in home aquaria.

Why use feeder fish at all? Some fish are predators in the wild, and offering them live fish may be the easiest way to get them to eat in captivity. But frozen fish foods or alternative live foods (see below) can almost always be used instead.

If you must use feeder fish, then the only safe approach is to raise your own. Livebearers are recommended, being nutritionally balanced as well as easy to rear. They should be maintained in a healthy environment and provided with a good-quality diet.Click image to enlarge

Tubifex worms have been known to introduce pests into home aquaria.
Photo by Oliver Lucanus

Live foods
The value of live food is that they are immediately recognized as prey even by newly imported wild-caught fish. Otherwise piscivorous fish will usually take earthworms, river shrimp and large insects, while fussy bottom feeders, such as spiny eels and mormyrids, will usually eat worms and insect larvae.

Live food is expensive and inconvenient; frozen fish food in particular is just as readily accepted by most fish and far less costly. Aquatic live food can also introduce pests and diseases. Among the pests known to hitchhike their way into aquaria alongside live food are snails, hydra and dragonfly larvae. Tubifex worms are notorious for transmitting diseases caused by myxosporidian and microsporidian parasites, such as nodular diseases and whirling disease.

Brine shrimp are often promoted as being very safe compared with other live food, and this is certainly true, but adult brine shrimp are nutritionally poor and should not be used as anything more than a periodic treat for your fish.Click image to enlarge

Panaque nigrolineatus by Oliver Lucanus.

Algae and other green foods
Herbivorous fish readily accept Sushi Nori, a Japanese seaweed-based food widely sold in Asian grocery stores. It can be broken up to feed small fish or attached to submersible “lettuce clips” to allow larger fish to nibble at their leisure. Vegetables can also be used. Iceberg lettuce and cucumber are readily accepted, but their nutritional value is very low; much better options include blanched curly lettuce, zucchini and tinned peas. Grazing fish like plecos enjoy sliced carrots and sweet potato.

Wood is an important food item for some fish. Plecos generally seem to need some wood in their diet as a source of dietary fiber, but those in the genus Panaque actually digest wood and will not do well if maintained without access to it.

Part 2

Neale Monks studied zoology at the University of Aberdeen in the north of Scotland and obtained his Ph.D. at the Natural History Museum in London. He's also been a marine biologist, a high school teacher, a university professor and a museum's exhibit designer. But his real love has always been tropical fish. His particular interest in brackish water fish culminated in his editing of the first encyclopaedic book on the topic, 'Brackish-Water Fishes', published by TFH in 2007. Neale regularly contributes to all the major English-language fishkeeping magazines, focusing especially on community tanks, biotopes, healthcare and water chemistry issues. After living in London and then for a while in Lincoln, Nebraska, Neale now lives in a quaint cottage in a pretty market town in Hertfordshire, England, where he divides his time between teaching and writing.