



Frequently asked questions

Q: *Do fish get sick like land animals?*

A: Yes, all animals get sick, but fish usually only get sick in large numbers when their environmental conditions are not to their liking, such as the result of polluted water or temperature stress. Because fish are so dependant on their environment, being cold-blooded, diseases are very difficult to cure if these environmental conditions are not suitable for the fish.

Q: *Why are fish more efficient at converting feed into mass than land animals?*

A: Fish need food only for movement, not for staying warm or for 'fighting' gravity. For example: a fish can move upwards in the water for 100 m for the same energy that it takes to horizontally move 100 m at the same depth. A land animal like a cow will consume far more energy walking up a steep hill than along the same distance on flat ground.

Q: *Since a fish is surrounded by water, how does it protect itself from water-borne diseases and parasites?*

A: A fish has an immune system, just like any other animal, that if healthy, will protect it from most diseases. Fish also have either scales or a mucus coating (or both) that protects them it from physical damage and some parasites.

Q: *How does a fish swim?*

A: A fish swims by contracting its lateral (side) muscles and then flexing the body muscles along its length, which basically pushes the water behind the animal. Fins are mainly used for directional stability. A fish can only move its body one way, so when you see a fish apparently thrashing about on land after harvesting, it is only flexing its body muscles in an attempt to swim away.

Q: *Can fish see colour, and do they have good eyesight?*

A: Yes, many fish have excellent eyesight and can see a wide variety of colours very efficiently. Many fish, like tilapia, recognize their mates by colour differences during the breeding season. Some species, such as the catfish *Clarias gariepinus*, have small eyes and poor eyesight, but use their barbels as taste organs in muddy water or in darkness to find their position and food.

Q: *How do fish feel their environment?*

A: Fish have a sensory organ called the lateral line which lies along the mid flanks of the fish. This organ is very sensitive and can pick up vibrations in the water, warning the fish of other species or predators in the water or on the bank. Using the lateral line organ, most fish can detect your footsteps on the bank from far away. Other fish have weak electric organs to aid their navigation and to detect prey and predators. Fish have an acute sense of smell and can detect the smell of food and other substances underwater, sometimes at great distances.

Q: *How many eggs do fish produce, and how often do they breed?*

A: This varies greatly between species. Carp and catfish may breed once a year and produce in excess of 100 000 tiny eggs per female. Tilapia may breed three to four times each summer and may produce 500-1000 eggs per spawning. Guppies may give birth to 50-150 live young every six to eight weeks throughout the year. Eels will never breed in freshwater, but go into the sea to breed in a manner still poorly understood even by scientists.

Q: *Can fish be artificially induced to breed?*

A: To some extent, yes, with hormone injections, but they must still be in a near-ready state for reproduction. Trout, carp and catfish are often stripped of their eggs and milt and artificially spawned. Tilapia are usually bred naturally, which they seem to be capable of doing under even the most stressful conditions, which means that when you prefer them to be putting their energy into growing rather than breeding, they will still breed and overpopulate their environment in the absence of natural predators.

