

Fungal infections

What are fungi?

There are many species of fungi known to infect fish. Saprolegnia, Achlya and Aphanomyces are the most common fungi to cause problems in fisheries. Infections appear as grey, brown or white fur-like growths on the skin, fins and gills of fish. They may also be found on eggs.

Fungi are common in aquatic environments, especially where there is a lot of decaying organic matter (such as plant litter and uneaten food). A fungus normally grows as a system (known as mycelium) of branching stems (individually known as hypha). They can infect most freshwater fish species including carp, perch, roach, tench, pike, salmon and trout.



A fungal infection on a common carp

What does a fungal infection do?

The fungi infects damaged skin or open wounds on a fish, and are said to be secondary infections. The fungi grows to cover the damaged areas and then spreads to the healthy tissue surrounding it. Digestive proteins produced by the fungi destroy the surrounding tissue. The fungi continues to spread, absorbing nutrients from dead and living tissues.



Saprolegnia mycelium under a high power microscope

If the fungi covers the gills of the fish, it may cause respiratory difficulties or even death if levels are severe.

Mucus on the skin of the fish usually stops fungal infections. If this mucus layer is damaged, through injury, stress or disease, the fungi can invade the fish. Fungal infections are therefore a sign that fish are in very poor health. Some fish species, trout and pike especially, may have problems with fungal infections after spawning.

Minimising the problems with fungal infections- what can I do?

Unfortunately not much can be done if your fish are suffering from fungal infections, and fish deaths often occur as a result.

Treatments are available for aquariums and garden ponds, however it is impractical to treat a fishery and may even be illegal.

Healthy fish do not get infected by fungi, and as such good fishery management is crucial to avoid outbreaks from occurring in the first place. Measures include:



A fungal infection covering an open wound

Regular monitoring of water quality

Temperature has a large effect on the growth of fungal infections. Most outbreaks occur when temperatures are low, but the stress of high temperatures can also cause outbreaks. Regular monitoring of water quality (temperature, dissolved oxygen content, pH and ammonia) is essential to detect problems within a fishery.

Reducing stress within the fish population

Even though fish may look healthy, they can become stressed without you knowing it. Stressors include high stock densities, poor habitat and poor water quality.

Careful management of stock levels

High stock densities will stress the fish, making them debilitated and more likely to be infected.

For more information about managing stock density, successful stocking, good habitat and monitoring water quality, see the relevant fact sheets in this series.

If you experience fish mortalities or require more information about fungal infections please contact:

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