

Affects all varieties of common carp, *Cyprinus carpio*, including varieties such as mirror, leather, koi and ghost koi

Outbreaks occur over 16°C

Can cause serious economic losses in coarse fish

No treatment

Notifiable disease in the UK

Large scale mortalities up to 100%

Clinical signs include lethargic or erratic behaviour, loss of mucus, and sunken eyes. Gills often have dead patches.



Example of the gill in a KHV infected Carp

Who do I call?

KHV disease is notifiable. There is a legal obligation to report any suspicion of an outbreak to the FHI immediately.

Contact address for further information:

Fish Health Inspectorate (FHI)
Centre for Environment, Fisheries & Aquaculture Science
Barrack Road, The Nothe
Weymouth
Dorset
DT4 8UB, UK

Tel: 01305 206700
Fax: 01305 206602
Email: fhi@cefas.co.uk
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Koi herpesvirus disease and your fishery



Centre for Environment
Fisheries & Aquaculture
Science

Introduction

If the water temperature is over 16°C, mostly carp dying and their gills look pale or rotten, then it might be KHV.

Don't hesitate, you must call the Fish Health Inspectorate (FHI) on 01305 206700.

As water temperatures rise - with the warmer weather - anglers and fishery managers must remain vigilant to the threat of koi herpesvirus (KHV) disease.

What is KHV?

KHV is a viral disease of common carp (*Cyprinus carpio*), and all its varieties - such as mirror, leather, ghost, koi etc. The disease occurs during higher water temperatures (16°C+), is highly contagious and may cause up to 100% mortality.

The disease is transmitted by fish to fish contact, and has been shown to transmit via angling equipment and contaminated water. The virus can shed through faeces, urine, gills and skin mucus.

What do I look for?

Is it mostly carp dying? Is it summer? Do the gills look damaged?

The affected carp appear lethargic, "hanging" in the water, gathering at water inlets or points of aeration. They can appear similar to basking fish, but a sick fish will not "spook" away as vigorously as a healthy fish - if at all.

The mucus covering the skin can appear like it's flaking off and the fish can feel dry and rough when handled. The eyes can appear sunken and, on closer examination, the gills can show patches of dead or rotting tissue.

In addition there may be effects of secondary infections caused by parasitic, fungal or bacterial pathogens.



Example of sunken eyes

When I report it, what happens?

The fishery will not be forced to close permanently and the remaining stock will not be culled - unless the fishery owner decides to do so themselves.

The FHI will investigate and place specific control measures to contain the virus in affected waters, and prevent further spread. Prompt action will protect the rest of your fishery and other waters.

If KHV is suspected or confirmed, then the FHI may temporarily close the affected water. This is to reduce stress on the fish and allow them to recover. Specifically the FHI stop the movement of equipment on and off the affected water whilst the mortalities continue. Equipment movements are allowed on any unaffected waters, but biosecurity - such as net dips - will be set up, if not already in place.

When the mortalities have stopped, disinfection facilities must be maintained and used by anglers when *leaving* the fishery. Ideally, the fishery would supply their own nets, mats and slings for use on the affected site only.

The FHI will place movement controls on the fish: restricting movements into, within and out of the fishery. After a fish mortality, the temptation is to restock with new fish - replacing those that died. But KHV can be carried by survivors. So, susceptible species (carp) cannot be stocked until after the following summer and only if there hasn't been a second outbreak. FHI permission must be obtained for all fish introductions. New fish may contract the disease from the survivors of the initial outbreak, and even after one year there is no guarantee this will not happen.

How did it get into my fishery?

The most likely route of introducing KHV is through live fish movements of infected animals. This includes introductions of unwanted pet koi or ghost carp, and carp from other fisheries. The rehoming of pet koi into fisheries is illegal and poses a high risk of introducing KHV disease.

The virus can also be transmitted via nets, mats and slings. Anglers moving from one water to the next with wet slimy equipment kept in "stink bags" are a proven risk

Can I treat my fish?

There is no treatment for KHV. Also any fish that survive the disease may carry the virus and act as a source of infection. This means that fishery management and biosecurity are key to managing the stock after the outbreak.

How do I reduce the risk of getting it in the first place?

Carp may have already been exposed and carry the virus. Go and inspect the stock before buying them, research your supplier online, and speak to other fishery owners. Find out the stock's origin: is it a farm or fishery? You can also look at sites which have the disease on the FHI GOV.UK pages.

Fisheries should supply their own nets, mats and slings. This will be a running cost, but budget for it via fees or take deposits. The cost of replacing stolen or damaged nets will not be as much as losing and replacing all your carp.

Install equipment disinfection points where you can, and maintain and use them. Encourage anglers to come to your site with clean and dry equipment.

You cannot rely on others to protect your fishery. You must do it yourself.