

# Responses to Koi Herpes Virus (KHV) outbreaks in Japan

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## ABSTRACT

The mass mortality among common carp (*Cyprinus carpio*) caused by Koi herpes virus (KHV) infection occurred in early October 2003 in Japan. KHV infection has been diagnosed in accordance with a guideline for the disease, and confirmation is based on the results of the polymerase chain reaction (PCR) examinations. The local authorities have officially declared that the movement of KHV-affected common carp and koi is prohibited and have ordered the destruction of KHV-affected common carp and koi under the Law to Ensure Sustainable Aquaculture Production.

## INTRODUCTION

Koi herpes virus (KHV) is highly contagious and virulent in common carp and koi (*Cyprinus carpio*). KHV infection first occurred in 2003 in Japan, and has caused heavy damage to common carp culture. In this report, we present responses to the KHV outbreak and the current status of the disease in Japan.

## DIAGNOSTIC SYSTEM FOR EXOTIC DISEASES AND KOI HERPES VIRUS DISEASE

In Japan, some exotic diseases are designated as “Specific Diseases” in the Law to Ensure Sustainable Aquaculture Production (Law No. 51, 1999). This designation is used for exotic diseases such as spring viraemia of carp (SVC) and viral haemorrhagic septicemia (VHS) of salmonid fish that have the potential to devastate the aquaculture industry in Japan. For such diseases, protective guidelines are established. The guidelines provide etiological information, diagnostic procedures, and description of the clinical signs and other important characteristics of the disease. Laboratory diagnoses of the diseases should be conducted in accordance with these guidelines.

A newly isolated herpes virus, Koi herpes virus (KHV), was first reported as a pathogen causing mass mortality of common and ornamental (koi) carp cultured in Israel and the United States in 1998 (Hedrick *et al.*, 2000). In Japan, no such mass mortality of cultured carp had been reported, and KHV had not been detected by a survey conducted in Niigata Prefecture (Amita *et al.*, 2002). It has been shown that

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