

BASICS

Duck viral enteritis (DVE), commonly known as duck plague, is a highly contagious disease caused by a herpesvirus.

DVE affects ducks, geese, and swans. Infections can cause large outbreaks in wild waterfowl and substantial financial losses on domestic duck farms.

DVE is **TRANSMITTED** by direct contact with infected birds that shed the virus in their feces or from cold sore-like ulcers under the tongue. Transmission also occurs indirectly through ingestion of contaminated food and water.

In the US, most outbreaks in **WILD WATERFOWL** occur in late winter to late spring when virus shedding is triggered by the stress of spring migration and breeding. Crowding of birds along migration routes facilitates virus transmission.

Clinical signs in infected birds include weakness, depression, ruffled feathers, partially closed eyelids associated with sensitivity to light, anorexia, extreme thirst, incoordination and inability to fly, watery or bloody diarrhea, and blood-stained bills and vents. In the field, the ground may be blood-stained from sick birds. The mortality rate varies but can be as high as 100%. Birds may **DIE SUDDENLY** before showing any clinical signs. Prolapse of the penis occurs in some infected males.

Birds that recover may remain inapparent carriers of the virus, shedding it periodically. This viral reactivation may lead to outbreaks in susceptible wild and domestic waterfowl.

Presumptive diagnosis of DVE is based on disease history and lesions seen at necropsy. **DEFINITIVE DIAGNOSIS** requires virus isolation or PCR detection.

There is **NO TREATMENT** for DVE.



**DIRECT
CONTACT
AND
INGESTION**



**DUCKS,
GEESE &
SWANS**

DETAILS

Duck viral enteritis is caused by anatid alpha-herpesvirus 1, a double-stranded DNA virus that affects birds in the Anatidae family, specifically ducks, geese, and swans.

First described in the Netherlands in 1923, the disease has been reported in wild and domestic waterfowl in North America, Europe, Asia, and Africa. Outbreaks are more common in commercial flocks than in wild waterfowl and cause significant financial losses from declining egg production.

The first outbreak in the US occurred in 1967 in commercial duck flocks and wild waterfowl (mallards and American black ducks) on Long Island, NY. Since then, it has spread across the country and into Canada. Several large outbreaks have involved migratory waterfowl in the US.

In January 1973, a DVE outbreak resulted in a 40% mortality rate among mallards (40,000 deaths) wintering at Lake Andes National Wildlife Refuge in South Dakota. Approximately 3% of Canada geese also died. In 1994, 1,200 American black ducks and mallards died (24% and 3% mortality rates, respectively) at Keuka Lake in New York. A smaller DVE outbreak occurred in 2018 in Onondaga County, New York.

The effect of outbreaks on populations of wild birds is not known.

Outbreaks of DVE also occur among backyard waterfowl flocks, zoos, and nonmigratory resident wild waterfowl.

In infected birds, the virus replicates in cells of the gastrointestinal tract and spreads to other organs, including the spleen, liver, and lymphoid organs. Blood vessels and organs are damaged leading to bleeding within tissues, the intestine, and body cavities. Bands of necrotic tissue may be visible within the intestine, and crusty plaques or scabs may be found in the mouth.

Birds that die suddenly may be in good body condition.

PRECAUTIONS AND PREVENTION Because there is no treatment for DVE, prevention is important. The virus is very tolerant and can last in the environment for up to 60 days. In commercial waterfowl flocks and game farms, strict biosecurity is essential to prevent contact with wild waterfowl, which may be shedding virus. Disinfection of footwear, clothing, and equipment after working with and around waterfowl is important. Vaccines to prevent infection are available for commercial flocks.

