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## Pathogenic typing of AI viruses

Avian influenza viruses are divided into low pathogenic (LPAI) and high pathogenic (HPAI) pathotypes.

For OIE purposes HPAI viruses are H5 and H7 avian influenza viruses that will cause at least 75% mortality when injected intravenously into 6-8 week old chickens. These viruses have common amino acid sequences in their genes.

For OIE purposes LPAI viruses are those avian influenza viruses of the H5 and H7 subtype that are not HPAI viruses.

OIE creates another category of avian influenza viruses and this contains LPAI viruses that are not H5 or H7 subtype viruses. Viruses in the first two categories must be reported to OIE, whereas those in the third category are not so reported.

## Pathogenicity

In the field avian influenza viruses can be categorised into highly virulent, moderately virulent, mildly virulent and avirulent strains.

Invariably highly virulent infections involve H5 or H7 avian influenza viruses in chickens and are characterised by highly fatal severe systemic disease that affects most of the bird's organs. Morbidity and mortality is close to 100%.

Moderately virulent infections arise from infection by any LPAI viral H and N type and can involve secondary pathogens. Mortality rates range from 5 to 97% with the highest mortalities arising in young birds, stressed birds or reproductively active hens. Lesions tend to be in the respiratory and reproductive systems, kidneys and pancreas.

Mildly virulent infections are caused by LPAI viruses and are typically manifested as mild respiratory disease or egg drops. Mortality is <5% and is usually in older birds. The avirulent infections are of LPAI influenza viruses and show no clinical signs.

## Geography

Avian influenza viruses have a global distribution, including the Antarctic where serologically positive penguins have been found.

Avian influenza viruses are most frequently seen in wild waterfowl.