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TITLE
SWINE INFLUENZA - RESULTS FROM ROUTINE DIAGNOSTICS

Astrid Tschentscher[1], Jan Böhmer[1], Verena Schüler[2], Stefan Pesch[2], Katrin Strutzberg-Minder[1]

[1] *IVD Innovative Veterinary Diagnostics (IVD GmbH)*
[2] *IDT Biologika GmbH*

CONTENT
Influenza A virus (IAV) causes a respiratory disease in swine with high morbidity but low mortality. IAV is divided into subtypes defined by the combination of the surface glycoproteins hemagglutinin (18 HA) and neuraminidase (11 NA). In Europe, the most prevalent subtypes are H1avN1, H1huN2, H3N2, H1pdmN1, and (recently) H1pdmN2, with reassortments possible.
This survey analyzed routine diagnostic results both serologically, by ELISA and hemagglutination inhibition (HI) test, and by real-time RT-PCR.

During the first half of 2018, a total of 4566 and 9874 swine serum samples was tested by competitive ELISA or HI, respectively; a further 5453 samples (66.0% nasal swabs; 19.1% oral fluids; 10.4% lungs) were tested by SIV-PCR. Another 816 samples were subtyped by multiplex real-time PCR targeting different genes for HA and NA. Different Influenza A strains of the 5 most predominant subtypes in Europe were used as antigens for HI testing. Data were analyzed according to age group and country of origin.

The percentage of positives ranged from 26.3% (HI) to 56.9% (ELISA). Most of the sera analyzed by HI were from sows (64.7%), whereas most tested by ELISA were from fatteners (50.3%). Most samples tested by PCR were from piglets (40.6%) and fatteners (31.1%). The distribution of subtypes differed both according to testing method (HI or PCR) and country of origin. In Germany, the dominant subtypes in HI results were H1avN1 and H3N2. The most frequent subtypes found by PCR were H1avN1 in Germany, France, and the Netherlands, followed by H1huN2 and H1avN2 in Germany and France.

These data represent a concise overview of the occurrence of different SIV subtypes in domestic swine in Germany and other European countries.
However, the reasons for the variation in subtype distribution should be analyzed further, considering countries, vaccination status, multiple Influenza infections, and animal age.