

Anne Ahlmann Nielsen - DTU Orbit (07/08/2016)

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Organisations

Division of Food Microbiology

26/09/2013 → 19/05/2015 Former
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Postdoc, National Veterinary Institute

04/03/2008 → 07/02/2016 Former
aani@vet.dtu.dk
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25/09/2013 → 08/02/2016 Former
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Publications:

Persistence of low-pathogenic H5N7 and H7N1 avian influenza subtypes in filtered natural waters

Wild aquatic birds are the natural reservoir of avian influenza virus (AIV), and the virus is transmitted among birds through a fecal-oral route. Infected birds excrete significant amounts of AIV into the environment, and thereby sustain the circulation of AIV in the bird populations. Improved knowledge on the influence of environmental factors on the persistence of AIV in natural habitats would be valuable for risk assessments. The presented work investigated the persistence of two low-pathogenic AIV subtypes in natural water samples. The study included two AIVs formerly isolated from wild ducks, which were suspended in filtered natural fresh, brackish or sea water with salinity of 0, 8000 and 20,000 parts per million (ppm), respectively. Also sterilized brackish and sea waters were included in order to examine the influence of microbial flora on virus persistence. All water samples were incubated at temperatures representative for seasonal variation of ambient temperatures in Northern Europe (4, 17 and 25°C). The results showed a clear correlation between persistence of viral infectivity and temperature, salinity and presence of microbial flora. While independent of virus subtype, the persistence of infectivity was negatively affected by increased temperature, salinity as well as presence of natural microbial flora. The study provides insight on impact of essential physical, chemical and biological parameters on persistence of AIV in aquatic environments. Studies determining the importance of additional environmental parameters and the detailed mechanisms of microbial inactivation of AIV should be encouraged.

General information

State: Published

Organisations: National Veterinary Institute, Department of Applied Mathematics and Computer Science, Statistics and Data Analysis

Authors: Nielsen, A. A. (Intern), Jensen, T. H. (Intern), Stockmarr, A. (Intern), Jørgensen, P. H. (Intern)

Keywords: (Avian influenza virus, Environment, Water, Salinity, Temperature, Microbial activity)

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Main Research Area: Technical/natural sciences

Publication information

Journal: Veterinary Microbiology

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Ratings:

BFI (2015): BFI-level 2

Scopus rating (2015): 1.381 1.123

BFI (2014): BFI-level 2

Scopus rating (2014): 1.274 1.242

BFI (2013): BFI-level 2

Scopus rating (2013): 1.42 1.481

ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 2
Scopus rating (2012): 1.433 1.581
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 2
Scopus rating (2011): 1.55 1.74
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 2
Scopus rating (2010): 1.365 1.471
BFI (2009): BFI-level 2
Scopus rating (2009): 1.287 1.471
BFI (2008): BFI-level 2
Scopus rating (2008): 1.109 1.301
Scopus rating (2007): 1.039 1.322
Scopus rating (2006): 1.015 1.407
Scopus rating (2005): 1.075 1.272
Scopus rating (2004): 0.861 1.269
Scopus rating (2003): 0.901 1.184
Scopus rating (2002): 0.817 1.123
Scopus rating (2001): 0.824 1.061
Scopus rating (2000): 0.816 1.099
Scopus rating (1999): 0.726 1.068
Original language: English
DOIs:

10.1016/j.vetmic.2013.06.024

Source: dtu

Source-ID: n::oai:DTIC-ART:elsevier/391328363::31509

Publication: Research - peer-review › Journal article – Annual report year: 2013

Persistence of Low-Pathogenic Avian Influenza H5N7 and H7N1 Subtypes in House Flies (Diptera: Muscidae)

Avian influenza caused by avian influenza virus (AIV) has a negative impact on poultry production. Low-pathogenic AIV (LPAIV) is naturally present in wild birds, and the introduction of the virus into domestic poultry is assumed to occur through contact with wild birds and by human activity, including the movement of live and dead poultry, and fomites such as clothing and vehicles. At present, the possible role of insects in the spread of AIV is dubious. The objective of the present work was to investigate the potential transmission of LPAIV by persistence of the virus in the alimentary tract of house flies, *Musca domestica* L. (Diptera: Muscidae). Flies were fed three virus concentrations of two AIV strains and then incubated at different temperatures for up to 24 h. The persistence of the two virus strains in the flies declined with increasing incubation temperatures and incubation periods. Similarly, increased virus uptake by the flies increased the persistence of virus. Persistence of infective AIV in flies differed significantly between the two virus strains. The laboratory experiments of the present study indicate that the house fly can be a potential carrier of AIV.

General information

State: Published

Organisations: National Food Institute, Division of Food Microbiology, Department of Applied Mathematics and Computer Science, Statistics and Data Analysis, National Veterinary Institute, Aarhus University Hospital

Authors: Nielsen, A. A. (Intern), Skovgård, H. (Ekstern), Stockmarr, A. (Intern), Handberg, K. (Intern), Jørgensen, P. H. (Intern)

Keywords: (avian influenza virus, insect carrier, transmission, house fly, *Musca domestica*)

Pages: 608-614

Publication date: 2011

Main Research Area: Technical/natural sciences

Publication information

Journal: Journal of Medical Entomology

Volume: 48

Issue number: 3

ISSN (Print): 0022-2585

Ratings:

BFI (2015): BFI-level 1

Scopus rating (2015): 0.958 0.923
BFI (2014): BFI-level 1
Scopus rating (2014): 1.056 0.972
BFI (2013): BFI-level 1
Scopus rating (2013): 0.991 1.037
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): 1.016 1.108
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): 0.968 1.104
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): 1.122 1.045
BFI (2009): BFI-level 1
Scopus rating (2009): 1.132 1.189
BFI (2008): BFI-level 1
Scopus rating (2008): 1.145 1.155
Scopus rating (2007): 1.019 1.111
Scopus rating (2006): 1.129 1.324
Scopus rating (2005): 0.908 1.078
Scopus rating (2004): 0.91 1.099
Scopus rating (2003): 0.735 1.041
Scopus rating (2002): 0.811 1.082
Scopus rating (2001): 0.769 0.967
Scopus rating (2000): 0.715 0.985
Scopus rating (1999): 0.82 0.977
Original language: English
DOIs:
10.1603/ME11017
Source: PublicationPreSubmission
Source-ID: 101465977
Publication: Research - peer-review › Journal article – Annual report year: 2014

Projekt: Overlevelse og spredning af fugleinfluenzavirus

General information

State: Published

Organisations: Section of Poultry Diseases, Division of Poultry, Fish and Fur Animals, National Veterinary Institute, Section for Veterinary Diagnostics, Division of Veterinary Diagnostics and Research

Authors: Nielsen, A. A. (Intern), Jørgensen, P. H. (Intern)

Pages: 34

Publication date: 2009

Main Research Area: Technical/natural sciences

Publication information

Journal: Dansk Veterinærtidsskrift

Volume: 92

Issue number: 14

ISSN (Print): 1600-2032

Ratings:

BFI (2008): BFI-level 1

Original language: English

Source: orbit

Source-ID: 273878

Publication: Research › Journal article – Annual report year: 2010

A mobile killing- and mincing unit represents a possible alternative in mass destruction of AIV infected poultry

In Denmark the veterinary authorities have approved a mobile mechanical unit for humane culling and processing of end-of lay hens. The elimination of transportation of live table egg layers is from a welfare point of view valuable, and in this respect, this multifunctional unit performs the initial steps in the disposal process. At first, the hens are transported into a chamber where they are killed by CO₂. The dead hens are subsequently transported on a conveyor belt to the disintegrating mincing device, and the produced pulp is accumulated in a container under constant mechanical stirring. In order to prevent bacterial growth and putrefaction, the pulp is acidified to pH below 2.0. Finally, the pulp is transferred via closed pipes to a container on a lorry before transportation to its final destination as mink feed. Importantly, all steps in this process are strictly supervised and adjusted according to standards. As this mobile unit minimises the risk of spreading pathogens, it represents an attractive approach in case of AIV outbreak in poultry flocks. This requires, however, that the acidification step is sufficient to inactivate infectious AIV. Therefore, low pathogenic AIV subtype H5N2 was added in the laboratory to freshly produced pulp, and the survival of infectious virus as well as presence of genome segments were monitored over a 24-hour period. Interestingly, H5N2 AIV was instantly inactivated in the acidified pulp, whereas AIV survival was documented for at least 24 hours in the non-acidified control.

General information

State: Published

Organisations: Section of Poultry Diseases, Division of Poultry, Fish and Fur Animals, National Veterinary Institute

Authors: Jørgensen, P. H. (Intern), Nielsen, A. A. (Intern), Handberg, K. (Intern), Kabell, S. (Intern)

Publication date: 2008

Event: Abstract from BARD/MARD WORKSHOP : On The Evaluation of Novel Technologies for Reducing Environmental Spread and Efficient Eradication Strategies for High Pathogenicity Avian Influenza, Antalya, Turkey, .

Main Research Area: Technical/natural sciences

Source: orbit

Source-ID: 228925

Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2008

Activities:

1st COST 929 SYMPOSIUM

Anne Ahlmann Nielsen (Participant)

National Veterinary Institute, Division of Poultry, Fish and Fur Animals, Section of Poultry Diseases

Details

Date: 9 Oct 2008 → 11 Oct 2008

Event: **1st COST 929 SYMPOSIUM : CURRENT DEVELOPMENTS IN FOOD AND ENVIRONMENTAL VIROLOGY**
09/10/2008 - 11/10/2008

Activity: Participation in conference/workshop/course/seminar › Organisation of and participation in conference