

Press Release

TELI Expert Talk at Analytica 2006:

Combating Bird Flu with High-Tech Bioanalytics

Experts recommend comprehensive viral analysis and coordinated data management – industry meets the challenge by providing high-performance analytical devices.

How dangerous is H5N1 avian influenza? An expert panel explored this question in a public discussion at the Analytica 2006. It appears that the extent and ways of viral spread in birds and other animals remain controversial.

Prof. Josef Reichholf, ornithologist at the Bavarian State Zoological Collection Munich, pointed out that the hypothesis of migrating birds acting as H5N1 carriers is questionable regarding the cases documented so far in wild-living birds. In addition, the term wildfowl is often mistranslated to the German "Wildvögel" (wild birds) leading to inappropriate conclusion on the spread of H5N1. The source of the virus infecting poultry still remains unclear. Ducks and swans, in contrast to migrating birds, appear to be the predominant hosts of H5N1. Prof. Matthias Büttner, veterinarian at the Bavarian State Health Authorities, has confirmed this assumption by the examination of a large number of dead birds. He emphasized that "bird flu" or avian influenza is not a novel disease but has been known as a classical disease of poultry for a long time, albeit that new viral subtypes such as H5N1 are arising from time to time.

There is a broad consensus that the monitoring of the disease necessitates systematic examination of waterfowl using rapid and reliable methods. Other animals suspected to carry H5N1 as well as animal feed should be included in the surveillance program. The results should be collected in a central database to establish a solid basis for medical and administrative interventions aimed at the containment of H5N1.

AJ Roboscreen already markets a PCR based diagnostic kit that reliably detects even minute quantities of viral nucleic acids. Chris Melancon of Applied Biosystems revealed that his company is developing a portable device that identifies H5N1 in the feces of waterfowl and poultry.

Peer Stähler of febit biotech GmbH pointed out that his company envisages a broader network-based approach: using febit's bioanalysis platform GENIOM[®], flexible microarray DNA analysis may provide fast identification and characterization of

pathogens in the case of an imminent pandemic. The data could be propagated via internet to a worldwide network of GENIOM[®] devices allowing almost instantaneous adaptation of diagnostic probes, which may facilitate viral containment and speed up vaccine development.

GENIOM[®] is a unique bioanalysis tool that enables the users to design, synthesize and use biochips right on their own laboratory bench. It is fast, flexible and secure, since there is no need to transmit sequence data to external suppliers. Within a single day, DNA sequence data of any virus or microbe can be translated into probe arrays and used in biological analyses. febit customers currently use the GENIOM[®] system predominantly for molecular biological and medical research.



Axel Fischer (TELI) (left), Chris Melancon (Applied Biosystems), Prof. Matthias Büttner (Bavarian State Health Authorities), Peer Stähler (febit biotech), Prof. Josef Reichholf, Zoological Collection Munich

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