

FUTURIS 3

BIRD FLU

SCRIPT ANGLAIS

1.00 GENERIQUE

And now the latest european research on avian flu in this edition of Futuris.

1.08 DUTCH ORNITHOLOGISTS WITH SIBERIAN GEESE

Out in the fields again. Every winter, Dutch ornithologists take a close look at the wild Siberian geese wintering here. They capture, analyse and then set them free in order to monitor for any presence of H5N1 virus.

And indeed the virus IS back in Europe. Researchers are on guard...., identifying how it spreads

and trying to understand its effects.

1.25 CIDC-Lelystad ANIMAL RESEARCH CENTRE

They don't need to go far to get some answers as nearby is a major research centre, one of the most secret in Europe. It's a bastion for animal research; a moat prevents live animals from coming any where near to the laboratories. Cattle is not allowed within a 5 kilometre radius and the centre has a special right to kill stray and wild animals coming into its premises.

Only small, specially disinfected cameras are allowed to film.

1.53 DEAD SWAN BEING ANALYSED

Everyweek the centre receives dozens of live animal samples but also whole dead animals found by biologists and volunteers. Researchers work inside, under tight security, hoping to increase their knowledge about some of the world's most lethal animal viruses, including the one that causes foot an mouth.

2.16 PHOTOS OF H5N1

The avian flu culprit, virus H5N1 was first identified in Europe in 1959, but the strain was very different from its current highly pathogenic strain, capable of killing 80-100% of the birds it infects.

2.26 ANIMATION OF H5N1

Researchers now know that the virus has a spiked shape with two types of sharp points which are proteins. In orange, protein H, -Hemagglutinin, that helps the virus stick to the cells-and in blue, proteine N -Neuraminidase, that facilitates the release of viruses from infected cells-

2.44 ANIMATION OF FLU VIRUS SUBTYPES

Both proteins are used as the basis for the naming of the different subtypes of influenza A viruses.

2.53 ITW GUUS KOCH, VIROLOGIST, CIDC-Lelystad (In English, partially covered)

"All different subtypes can be very lethal. For instance the virus that caused the pandemic in 1918, in which 50 to 100 million people died, that was an H1N1. In the Dutch outbreak in 2003, which was caused by H7N7, one veterinarian died because he was infected by this virus. And now we have H5N1. 200 people have been infected, and about half of them have died. Why these viruses are so dangerous for humans we don't know. That is currently being investigated by several research groups. Some patterns have already come out. One of the internal proteins of the virus seems to have certain characteristics that make it so dangerous for humans. And also the Hemagglutinin probably is very important for whether the virus is able to infect humans".

3.48 GUUS KOCH AT OFFICE

Guus Koch is one of the main European experts on H5N1. He has been researching diseases of poultry, including avian influenza, for 23 years.

His team is currently participating in six different European programs with different scientific aims; developing vaccines for avian species, settling improved diagnosis and also developing early warning systems.

4.01 INOCULATION OF LIVING CHICKEN EMBRYOS

Shared objectives, shared techniques: most European research centres use the inoculation of H5N1 virus in living chicken embryos as a useful technique both to test its virulence and to better understand the pathogenic profiles of its different strains.

European researchers are still unsure about how and when the current strains may mutate to produce a pandemic virus in humans.

4.28 ITW GUUS KOCH

"We don't know the exact changes that are needed in the virus to become a virus that causes a pandemic

In that case, the virus would transmit easily from humans to humans. And currently that doesn't happen. We don't know why that is. One of the possibilities is that the virus is currently replicating in the deep respiratory system. And because of that we don't produce saliva, so we don't transmit it to other humans. If the virus would change in such a way that it could replicate in the upper respiratory system, in the throat and in the nose, maybe this could change".

5.09 EXTERIORS FRIEDRICH-LOEFFLER INSTITUTE

More answers are also sought near the city of Greifswald, north of Germany. It looks like a hotel on the Baltic Sea coast, but this building hosts the Friedrich-Loeffler Institute, another bastion for Animal Health Research in Europe.

Molecular biology, infectology, immunology, epidemiology... 8 different research institutes and a number of reference laboratories try

5.25 COWS

to unveil the mysteries behind animal diseases like Creutzfeldt-Jacobs in bovines...

5.31 SANGLIERS

classical swine fever,

5.35 GOATS

bluetongue in domestic cattle, goat pox

5.43 CHICKENS

and, of course, avian influenza.

Researchers here think that one of the best ways to isolate H5N1 virus - and preventing its spreading to humans- is to develop new, more powerful and more effective vaccines for animals. This living poultry is used to evaluate existing injectable inactivated Avian Influenza vaccines. But researchers here are looking beyond; they dream to design a whole new generation of animal vaccines; the so-called "recombined vaccines".

6.11 ITW TIMM HARDER VIROLOGIST, FRIEDRICH-LOEFFLER INSTITUTE

"Nous faisons des recherches pour développer des vaccins recombinants, notamment dans l'Institut de Biologie Moléculaire (part of Friedrich-Loeffler Institute). Nous cherchons ainsi à améliorer les vaccins disponibles et nous voulons améliorer aussi les méthodes de diagnostic pour clarifier plus vite et plus sûrement des situations d'infections douteuses".

6.34 RESEARCHERS

Molecular researchers work to develop recombined vaccines mixing genes from the proteins of a virulent virus with the DNA of a non-virulent virus, which is then allowed to reproduce itself and actually produce immunoprotective proteins.

Better knowing the way H5N1 virus affects birds, cats (TRY TO MATCH THIS COMMENTARY WITH 7.00 PICTURE OF "FELINE" LABEL) and other animal species will help also improve diagnosis and plan better ways to distribute the vaccines.

7.11 ITW TIMM HARDER, VIROLOGIST, FRIEDRICH-LOEFFLER INSTITUTE

"Pour l'instant, nous pensons que distribuer des vaccins via l'eau potable ou via des sprays sera une bonne piste. Une grande problème des vaccins disponibles c'est qu'on doit les injecter à chaque poulet individuellement... et on doit vacciner deux fois afin que ça fonctionne. Donc c'est difficile de couvrir des surfaces larges, et ça c'est un obstacle. Pourtant, avec une vaccination via l'eau ou avec une application en spray on peut vite couvrir toute une population".

7.47 RESEARCHERS WITH POULTRY

Recombined vaccines may prove useful

to offer longer effective immune protection periods. But, European researchers agree, the respect of biosecurity protocols - including basic hygienic measures or confinement of farm poultry- will be essential to guarantee the effectiveness of this new generation of vaccines. Otherwise, H5N1 is set to mutate even faster than what it is naturally occurring.

8.07 ITW GUUS KOCH

"(Post-vaccination) changing of the virus might occur, but only if the vaccination is not applied in a proper way. We know the situation in Mexico, where vaccination has been going on for 10 years without applying biosecurity measures. And after those 10 years, the virus has indeed changed into a virus that is not protected any more by the vaccination".

8.33 GREIFSWALD PORT, SEAGULLS, WEBSITES

Far away from the quietness of Greifswald harbour, fighting H5N1 is at the centre of a huge european research effort, worth almost 42 million euros for the period 1998-2013, with dozens of EU programs aimed not only at improving preparedness, prevention, detection and control of avian flu but also at encouraging transnational cooperation between researchers.

URL|ec.europa.eu

URL|epizone-eu.net

8.55 GENERIQUE

9.00 ENDS