VACCINATION PROGRAMME OF SUSCEPTIBLE BIRDS KEPT IN SPANISH ZOOS

Madrid, 27 February, 2006
1. INTRODUCTION

Whereas

Avian influenza is an infectious viral disease affecting poultry and other birds, causing mortality and disturbances, which can quickly take epizootic proportions liable to present a serious threat to animal and public health and to reduce sharply theprofitability of poultry farming.

Highly pathogenic avian influenza caused by influenza A virus of subtype H5N1 has spread from South Asia (where appeared at the end of 2003). At the end of July it was detected at Russian Federation and closed areas at Kazakhstan; almost at the same time, Mongolia notified isolation of HPAI in wild birds. October 2005, virus was found at Turkey, Romania, and Croatia. Early December, Ukraine suffered for the first time in poultry. February 2006, virus presence was confirmed at Africa (Nigeria), and it has been isolated from wild birds found sick or death at eight European Union Countries (Germany, Austria, Slovaquia, Slovenia, Greece, Italy, France, and Hungary).

Circumstantial evidences and molecular epidemiology studies strongly suggest avian influenza virus can have been disseminated at those countries from Central Asia through migratory birds.

Wild bird migratory patterns show that thousands of migratory birds are likely to visit Spain, not only by because of migratory spring patterns coming from Africa that cross Spain to the North, but also next autumn coming from Northern Europe. As a result of this, two higher risk periods for viral spreading are clearly identified: autumn and spring.

Vaccination of susceptible birds kept in zoos can be an appropriate additional preventive measure, as proved by the experiences from the Netherlands, when used to fight the Avian Influenza epidemic on 2003.

The use of vaccination of birds in zoos is appropriate as a tool to prevent infection, for the protection of wildlife, some high biological valuable species and thus to preserve biodiversity. In Spain, many zoological parks are involved in regarding conservation of endangered species; which fully justifies the use of vaccination as a way to protect biodiversity.

Spain is going to present a Vaccination Programme for Susceptible Birds Kept in Zoos located at risk areas (according to Orden APA/3553/2005, November 15th, that established specific protection measures against Avian Influenza) with the purpose of protecting these birds
and reducing virus spread if HPAI infection finally occurs. This vaccination also agrees with Commission Decision 2005/744/CE, transposed to national rules by Orden APA/3553/2005 and APA73855/2005. As detailed there, all zoos located in the areas listed at second annex, for reducing disease spreading risk, must keep isolated as much susceptible birds as possible (indoor or temporal closed facilities); and any other susceptible birds who cannot be maintained protected from wild birds contact due to welfare or particular specific reasons, must be vaccinated as a protection measure.

About that, Spanish Ministry of Agriculture, Fish and Food, with the collaboration of local competent authorities, has developed this Vaccination Protocol for Susceptible Species.

2. ZOOS

The vaccination Programme will take place at the Zoos registered according with Council Directive 1999/22/EC, or any other zoological enclosure, located inside the areas listed in Annex II Orden APA/3553/2005.

Zoos located at risk areas, and joining to the Iberian Association of Zoos and Aquariums (AIZA), are listed in annex I. Other Zoos can be added to the list if proposed by local competent authorities.

3. SUSCEPTIBLE BIRDS

Although vaccines have not been validated for exotic species, previous vaccination experiences at zoos in other EU countries (such as the Netherlands in 2003) seem to be safe for applying to these species, and no illness or death were reported after vaccination. Moreover, subsequent serologic surveillance showed good antibody response in most species, supposing to induce bird protection against virus.

All vaccinating birds belong to supposed susceptible species for Avian Influenza; they cannot be protected from wild birds contact; and the birds or their meat will not go to food chain.

4. VACCINE TO BE USED

The vaccine to be used is monovalent inactivated H5N9, Fort Dodge®. This vaccine type supports the DIVA principle because it has a different N-antigen as the N-antigen of the wild virus (N9 versus N1). It will be used in accordance with the instructions of the manufacturer, which include subcutaneous or intramuscular vaccination and booster three weeks later.
It is advised to fit the dose according to the size of the bird to be vaccinated, being standard dose 0.5 ml, decreasing to 0.2 ml for one day old chicks and any other similar size bird, and increasing to 1 ml for Rattites and similar sized birds.

5. VACCINATION CARRY OUT

Birds to be vaccinated in a zoo will be as quickly as possible; each vaccination in a specific unit will be filled within less than 96 hours. Booster will be applied three weeks later.

All zoos will established a sentinel group. Group size will be set from epidemiological reasons, and having in consideration representatively of different bird Order, specially the most susceptible ones.

Vaccination will be carried out under an official veterinarian depending on the Comunidad Autónoma where located the Zoo.

Vaccinated and sentinel birds will be individually identifiable (rings or chips) and the identity records of these birds will be clearly annotated accordingly.

Any residual vaccine amount will be returned to the point of vaccine distribution accompanied by a written record including number of vaccinated birds and number of doses used.

Blood samples from vaccinated birds belonging to each Order will be taken for serological testing, before, on day 21, on day 60, and optionally 120 days after booster; the percentage of sampled birds will be set with epidemiological criteria. The analyses will be done by Central Laboratory of Algret, the National Reference Laboratory for Avian Diseases. A record of the test results will be kept, in a database, for at least 10 years.

The vaccinated birds will not be traded or moved unless after a written permit of the MAPA, an agreement between zoos in the same Member State, or after specific authorisation of another Member State. Bird products from such birds will not go into the food chain.

6. SUPERVISION OF THE VACCINATION CAMPAIGN

Before starting vaccination, Zoo must submit to the corresponding Comunidad Autónoma competent authorities and to the MAPA a plan containing the following items:

1) Vaccination date and place, name and address of the veterinarian who will carry out the vaccination and blood sampling.
2) List of birds (species, identification) to be vaccinated
3) Vaccinated birds housing description
4) Signed engagement from the Zoo responsible assuming rules and this protocol fulfilment
5) Vaccine amount estimated to need.

The M.A.P.A. and corresponding Comunidad Autónoma competent authorities will approve this plan and vaccination authorisation if agree with it.

Corresponding Comunidad Autónoma competent authorities will oversee vaccination carrying out at any Zoo.

7. REPORTING

A detailed report on the vaccination programme carry out, including results of blood testing will be submitted to the Commission and the European Union Member States.

The list of zoos and number of birds foreseen for AI preventive vaccination:

<table>
<thead>
<tr>
<th>ZOO</th>
<th>Number of birds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zoo de Barcelona</td>
<td>555</td>
</tr>
<tr>
<td>Zoo de Valencia</td>
<td>61</td>
</tr>
<tr>
<td>Oceanográfico de Valencia</td>
<td>243</td>
</tr>
<tr>
<td>Safari Park Vergel</td>
<td>170</td>
</tr>
<tr>
<td>Rio Safari de Elche</td>
<td>300</td>
</tr>
<tr>
<td>Zoo de Jérez</td>
<td>550</td>
</tr>
<tr>
<td>Isla Mágica</td>
<td>45</td>
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<tr>
<td>Carmona</td>
<td>102</td>
</tr>
<tr>
<td>Parque Zoológico de San Amaro</td>
<td>30</td>
</tr>
</tbody>
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