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**Panel on Food Safety and Environmental Hygiene**

**Background brief prepared by the Legislative Council Secretariat  
for the meeting on 11 January 2011**

**Vaccination for the Control of Avian Influenza in Hong Kong**

**Purpose**

This paper summarizes the deliberations of the Panel on Food Safety and Environmental Hygiene ("the Panel") on the vaccination for the control of avian influenza in Hong Kong.

**Background**

2. The Administration launched a vaccination programme on a trial basis in April 2002 in the Pak Sha area to assess the potential role of vaccination for the control of H5N1 avian influenza virus in Hong Kong. The vaccine used was the Intervet Nobilis H5N2 vaccine ("Intervet vaccine"), a commercially available vaccine containing an inactivated H5N2 virus. A total of 22 farms in the area were included in the trials. To facilitate the gathering of more data to evaluate the role of vaccination in the control of H5N1 avian influenza in Hong Kong, the trial programme was extended in December 2002 by also vaccinating the chickens in the farms in the vicinity of Pak Sha. A total of 53 additional farms were included in the trial.

3. Apart from testing on vaccinated chickens in field conditions, simple vaccinated versus controls laboratory challenge studies were also conducted. Both vaccinated and unvaccinated chickens were taken from the field and challenged in laboratory with a recent H5N1 virus found in a retail market. Separately, Professor Robert Webster at the World Health Organization ("WHO") Reference Laboratory for Avian Influenza also

conducted three laboratory challenge studies on the same vaccine. In addition, testing results of three infected farms in January 2003 were analyzed to assess the effectiveness of the H5N2 vaccine used. Based on the results of the trial programme, the Administration considered that the H5N2 vaccine used was suitable for vaccination for chickens as an additional protective measure for avian influenza in Hong Kong. The vaccine has been used on local poultry since 2003.

4. According to the Administration, it had been adopting a comprehensive preventive and surveillance programme to reduce the risk of avian influenza outbreaks in Hong Kong. The measures included tight biosecurity measures and vaccination at local farms, enhanced import control, stringent hygiene requirements on wholesale and retail markets, etc. In his 2009-2010 Policy Address, the Chief Executive announced that the Government would continue to tighten up the regulatory framework for poultry and animals for the purpose of enhancing public health and food safety. In the light of the outbreak of avian influenza in a local chicken farm in December 2008, the Administration had set up two investigation groups responsible for conducting epidemiological study of avian influenza outbreak on the index farm and the vaccine study respectively. The Investigation Group on Epidemiological Study would examine the biosecurity measures of the index farm, try to identify the source of infection, review the existing biosecurity measures of farms and propose enhancement measures so as to assist the farmers to combat avian influenza. The Investigation Group on Vaccine Study would be responsible for conducting research and tests on the efficacy of the existing H5N2 vaccine used in Hong Kong as well as studying the effectiveness and quality of alternative vaccines. The Agriculture, Fisheries and Conservation Department ("AFCD") had commissioned three reference laboratories recognized by WHO or World Organization for Animal Health to conduct challenge studies. The Government would decide whether there was a need to replace the vaccine depending on the test results.

### **Deliberations of the Panel**

5. At the meeting on 27 May 2003, the Administration briefed members on the vaccination for the control of H5N1 avian influenza in Hong Kong. The major concerns raised by members on vaccination of chickens are summarized in the ensuing paragraphs.

6. Members were concerned about the effectiveness of the Intervet vaccine. According to the Administration, the results of the trial

programme had shown that the success rate of vaccinated chickens which had developed satisfactory antibody level was 80%, and 20% of the chickens had failed in the test. The findings revealed that there was still excretion of infectious H5N1 virus in vaccinated chickens, although it was already 1 000 times less than that excreted by unvaccinated chickens. The Administration was of the view that the Intervet vaccine used was suitable for vaccination of chickens as an additional protective measure for avian influenza in Hong Kong and all chickens in local farms were being vaccinated with the vaccine as a control measure. In view of the possibility of influenza virus evolution in vaccinated chickens, the decision on universal vaccination would be reviewed in two years' time. The Administration would maintain a comprehensive monitoring and surveillance programme to detect and characterize any new H5 virus incursions. This would include monitoring unvaccinated sentinel chickens in every batch of local chickens for H5 avian influenza virus infection, virus culture on all dead chickens collected daily at the wholesale market, and virus culture on dead birds and from random swabs per month from retail poultry markets. The local farm monitoring would also include antibody testing to ensure that vaccinated flocks were maintaining good H5 antibody levels.

7. Members sought updates on the progress of the Administration's discussions with the Mainland about vaccinating live Mainland chickens supplied to Hong Kong with an equivalent vaccine registered for use in the Mainland. According to the Administration, the Mainland authorities were willing to vaccinate live chickens imported to Hong Kong for preventing H5N1 avian influenza. The Administration was liaising with the Mainland authorities on the import control measures to be put in place. When both sides reached an agreement on those measures, the Mainland authorities would implement a vaccination programme for their live chickens supplied to Hong Kong.

8. Members pointed out that during the H7N7 avian influenza outbreak in the Netherlands, a veterinarian was infected with the N7N7 influenza and died of it subsequently. Members were concerned whether the AFCD staff responsible for conducting the vaccinated versus controls laboratory challenge study were provided with adequate protective gear. The Administration explained that the AFCD staff concerned had been provided with high-level protective gear and a series of precautionary measures had been put in place to guard against infection. Members were informed that the laboratory challenge studies had been completed and no further studies were required.

### **Updated development**

9. According to the Administration, all local poultry farms have completed upgrading their biosecurity measures by end April 2010 and this had minimized the chance of occurrence of avian influenza. Since the use of the existing H5N2 vaccine in March 2003, avian influenza infection was detected in both vaccinated and unvaccinated chickens in a farm in Yuen Long in December 2008 and there had only been one reported outbreak of H5N1 highly pathogenic avian influenza ("HPAI") on a local farm.

10. As stated in the 2010-2011 Policy Agenda, AFCD intended to conduct a voluntary field trial programme at local farms using the H5N1 vaccine to further confirm its suitability for use in Hong Kong. The Administration will brief the Panel on the field trial programme using the Harbin Re-5 H5N1 avian influenza vaccine against HPAI viruses in local chicken farms at the meeting on 11 January 2011.

### **Relevant papers**

11. A list of relevant papers is in the **Appendix** for members' easy reference. The papers are available on the Legislative Council website at <http://www.legco.gov.hk>.

Council Business Division 2  
Legislative Council Secretariat  
6 January 2011

**Appendix****Relevant Papers/Documents**

<b><u>Meeting</u></b>	<b><u>Meeting Date</u></b>	<b><u>Papers</u></b>
Panel on Food Safety and Environmental Hygiene	27 May 2003	Administration's paper LC Paper No. CB(2)2170/02-03(03) <a href="http://www.legco.gov.hk/yr02-03/english/panels/fseh/papers/fe0527cb2-2170-03-e.pdf">http://www.legco.gov.hk/yr02-03/english/panels/fseh/papers/fe0527cb2-2170-03-e.pdf</a>  Minutes of meeting LC Paper No. CB(2)3007/02-03 <a href="http://www.legco.gov.hk/yr02-03/english/panels/fseh/minutes/fs030527.pdf">http://www.legco.gov.hk/yr02-03/english/panels/fseh/minutes/fs030527.pdf</a>
	10 March 2009	Administration's paper LC Paper No. CB(2)1015/08-09(03) <a href="http://www.legco.gov.hk/yr08-09/english/panels/fseh/papers/fe0310cb2-1015-3-e.pdf">http://www.legco.gov.hk/yr08-09/english/panels/fseh/papers/fe0310cb2-1015-3-e.pdf</a>
	16 October 2009	Administration's paper LC Paper No. CB(2)41/09-10(01) <a href="http://www.legco.gov.hk/yr09-10/english/panels/fseh/papers/fe1016cb2-41-1-e.pdf">http://www.legco.gov.hk/yr09-10/english/panels/fseh/papers/fe1016cb2-41-1-e.pdf</a>
	15 October 2010	Administration's paper LC Paper No. CB(2)50/10-11(01) <a href="http://www.legco.gov.hk/yr10-11/english/panels/fseh/papers/fe1015cb2-50-1-e.pdf">http://www.legco.gov.hk/yr10-11/english/panels/fseh/papers/fe1015cb2-50-1-e.pdf</a>

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