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**COMPARISON OF THE APPLIED CONTROL MEASURES
AGAINST HIGHLY PATHOGENIC AVIAN INFLUENZA (HPAI)
IN EUROPE (KINGDOM OF THE NETHERLANDS) AND ASIA
(KINGDOM OF THAILAND AND THE SOCIALIST REPUBLIC
OF VIET NAM)**

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**Stuttgart-Hohenheim
July 2005**

**This work was financially supported by the
Eiselen Foundation Ulm**

13 CONCLUSIONS AND RECOMMENDATIONS

Table 2-Summarized comparison of the applied measures

	Netherlands	Thailand	Viet Nam
Destruction	Gassing with CO ₂ Electrocution	Gassing with CO ₂ Injection "Hand culling"	"Hand culling"
Disposal	Rendering plants Stationary incinerator plant	Pyre burning On-farm or open-field burying	Pyre burning, On-farm or open-field burying,
Movement Control	At first complete standstill Compartments	Zone of 50-60km 7 different kinds of permission forms 107 checkpoint on main routes	1.stage: complete standstill, illegal movement 2. stage: standstill for the affected province
Disinfection	Preliminary and final cleaning and disinfection	Preliminary and final cleaning and disinfection "Big-Cleaning-Week"	Preliminary and final cleaning and disinfection Special measures for State Breeding farms
Surveillance	Nationwide serological survey (1,224 holdings tested), 3 positive to LPAI	3 Phases of active Surveillance, over 87,000 samples taken, 190 positive to HPAI	2,435 samples, 385 positive 30,158 serum samples, 1,715 positive, retested by virus isolation. 355 positive to HPAI

Zoning	Protection zone: 3km Surveillance zone: 10km Setting up of compartments	Protection zone: 5km, reduced to 1km (02/2004) Surveillance zone: 5 km	Protection zone: 3km, reduced to 1km (02/2004), than to 500m
Public Awareness Campaign	Up-to-date website LNV-Loket Media	Receipt of 1 Million THB for death after eating chicken "Eat Chicken Day" Hotline, media, flyers	2 24 hours hotlines Media, flyers,
Wild bird control Other animals	92 samples taken, 7 tested positive	Trimming, cutting trees, 1,011 samples taken, 10 tested positive. 67 tigers died	Trimming, cutting trees
Vaccination	No vaccination for poultry Susceptible zoo birds were vaccinated	No vaccination Vaccination is discussed for domestic poultry	No vaccination Test vaccination are taking place at the moment
Compensation	Sick animals: 50% of healthy value Dead animals: no compensation	20 (broiler, eggs) and 40 (layers) THB at the beginning 75% of market price at the moment Problems with timely payment	5,000 VND per bird (to farmer) 3,000 VND for disinfection (to Provincial government) Some provinces paid more
Restocking	Use of sentinel birds 21 days after destocking	100 (layers) and 20 (broilers) THB for restocking 21 to 90 days after destocking	2,000 to 3,000 VND Loan without interest granted 21 days after destocking

The Netherlands, Thailand and Viet Nam are countries with different economic, religious and political structure. However, all 3 countries have a high poultry and human density.

As seen in Table 2 the applied control measures differed in the H7N7 outbreak in the Netherlands and the H5N1 outbreaks in Thailand and Viet Nam between Europe and Asia and from one country to the other. Although the main features of the control measures were the same, the combination of chosen methods varied due to the local situation and traditional and religious reasons.

The veterinary service plays an important role in controlling and combating diseases. Well educated personnel help to detect diseases effectively. A good and fast reporting structure helps to prevent the spread of a disease already at the beginning.

To prevent the contact between commercial poultry and wild birds, the preferred poultry production system should be a closed system. However, an incentive to the owner of backyard poultry has to be offered. Punishment or common prohibition of the type of holding without proper advice causes unnecessary problems.

Destruction of the poultry remains the first choice of action for bringing the HPAI outbreaks under control. However, the method of destruction depends on many factors. Gassing and Electrocutation are the preferred methods in Europe. In Asia, the method depends on the local circumstance. If the feasibility and capacity are given, electrocution or container gassing should be applied. Otherwise cullers have to be trained to destroy poultry in a fast and humane way.

The ANIMAL HEALTH AUSTRALIA 2004 recommends a radius for the protection zone of 1 to 5 kilometres around the affected premise and for the surveillance zone additional 2 to 10 kilometres from the border of the protection zone. In Thailand and Viet Nam a minimum of 1 kilometre around an affected premise should be set up to limit the possibility of infection through wind.

The proper use of vaccination should be considered to limit the socio-economic losses for poultry holders. Vaccination for small-scale farmers free of charge as it is practised in Indonesia, is advisable to get the cooperation of the farmers. Otherwise

the poultry may be hidden which would cause difficulties in preventing the disease from spreading. "DIVA" is practicable in exporting countries.

In case control measures restrict farmers in earning their income, such as destruction of their poultry or movement ban, a timely compensation has to be paid. To prevent illegal movement the market price has to be paid. As future scheme it can be considered if a disease insurance should be set up.

Unlike other economically important domestic animals, poultry raising takes place in a very short production system. Countries should not stop to carry out destruction of infected poultry just because long-term consequences on poultry production are feared.