

AVIAN INFLUENZA

The Highly Pathogenic exotic Type A/H7N3 Avian Influenza outbreak in Jalisco, 2012 and Guanajuato, 2013 México

International Egg Commission

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The unexpected beginning

On Saturday June 9, 2012, high mortalities start being reported in several egg layer farms in the dense populated poultry area of Acatic-Tepatitlan-Pegueros located in the Altos de Jalisco area (highlands) in Western Central Mexico. This geographical area has a standing population of 70 million layers in a corridor long of about 160 kilometers, between Tepatitlán and San Juan de Los Lagos. Jalisco provides the 55 % of the national egg production. If Jalisco were a nation, it would be the 8th largest egg world producer.

This Avian Influenza took by surprise the veterinarians and farmers. In the beginning the outbreak was diagnosed in a period of few days as Fowl Cholera, then as Newcastle Disease, but finally it was obvious, it was a severe Orthomyxovirus

SENASICA, the Mexican veterinary sanitary authorities reported the presence of this exotic Highly Pathogenic Type A/H7N3 virus to the OIE on June 21, 2103 and proceeded to implement the National Animal Health Crisis (DINESA) immediately. It was immediately established a quarantine zone around the affected farms with compulsory stamping out of infected and not infected birds. It was established a focal area of 9,531 square km, a perifocal area of 11,147 square km and a mitigation zone of 11,795 km. Besides a huge active epidemiological surveillance effort was implemented within the State of Jalisco and the its six neighboring states and in the rest of the country and established.

The Mexican army took control of all mayor highways and very single minor roads to stop any type of live or killed bird or any poultry product mobilization.

The unholy dilemma

To vaccinate or not!

Despite these huge and vast efforts, unfortunately the virus through the days and few weeks continue its aggressive expansion. Due to this desperate situation, farmers,

poultry veterinarians and SENASICA officers had to take the unwanted and bitter decision to consider the possibility to vaccinate as a temporary contention procedure.

An inactivated emulsified oil vaccine was produced with a Low Path Avian Influenza virus A/H7N3, isolated in 2006 from ducks from the marshes of Lerma River on under an intense time pressure.

Vaccination campaign started on July 26.

On Wednesday October 24, President Felipe Calderon announced that sanitary emergency provoked by the HPAI A/H7N3, was under control.

By this time, 22.3 million birds had died or had been stamped out with a cost of US\$760 million dollars, 160 millions vaccine doses had been injected and the lost of 7,688 jobs

Tricky and wicked viruses

We though we had won the battle, however, winter arrived to Mexico with low temperatures and cold strong winds. However, we had on the January 3th, 2013, a case of HPAI in two non vaccinated layer farms in Aguascalientes State, that were immediately quarantined, birds were culled and the case was closed. But once more, few weeks later, on the night of Wednesday February 23, we start having again, reports of high mortalities, but now, surprisingly in broiler breeders flocks located in the State of Guanajuato, located southeast of Jalisco.

The second wave

By the end of March, 2013, 3.7 million birds have been sacrificed, among them, 847,000 broiler breeders, 1,984 million broilers and 918,000 layer hens. Aiming the contention of this new wave, 131 million vaccine doses have been given.

RECOMMENDATIONS

What other nations should learn from the painful and hard Mexican experience?

All nations and all poultry industries in this planet should take seriously consideration the concepts and actions described below.

The most traumatic and most painful experiences always leave considerable amounts of knowledge of enriching lessons that at the end are extremely difficult to forget.

Actions to take to prevent and to avoid the presence of an Avian Influenza outbreak

Going back to basis!

Simple actions very often forgotten such as:

1.- Cleanliness and hygienic measures are constantly forgotten, due to the excess of work or because the veterinarian, the manager or the producer try to save money and reduce costs

2.- Magic words such as lots of “water and soap”

3.- Rational use of proper disinfectants and disinfection methods

4.- Respect with discipline and good planning the sanitary downtime between broiler flocks, replacement pullets

5.- Apply best production practices:

a) Planning

b) Organization

c) Good Order

d) Discipline

e) Control and follow up

6.- Implement the: “All in. All out System”!

If possible, only one age in each farm mainly in broiler farms. Try to do the same in layer farms, however, due to the characteristics of this activity it is difficult to achieve.

7.- **BIOSECURITY**: It must be seen as an investment and not as an expense. It will largely pay back.

8.- Development of a Biosecurity Operational Manual, adapted for internal use of each farm or poultry company that can be used for measuring and grading the **BIOSECURITY LEVEL** of each chicken house of a poultry farm (broiler, layers and breeder farms), hatchery plant, feed mill, slaughter house, etc.

9.- Control of all in and out movements of poultry premises of personnel and all types of cars, trucks, raw material and goods. Special attention must be paid to the control of feed, fertile eggs, gas and manure trucks and drivers.

10.- One gram of broiler or layer manure can contain millions of live viral particles of Avian Influenza virus. Avoid manure movement and its commercialization, unless manure has been gone through a thermal treatment, before being sold and transported as agriculture fertilizer or sent to bovine feedlots.

11.- People are de main moving fomites that transmit pathogens and infectious diseases: employees, workers, vaccination crews, etc.

12.- Avoid the presence of salesmen promoting their products at the farm gates

13.- Control of building of new farms or any kind of facilities related to animal production (minimum 5 km away)

14.- Fulfill the “Good Poultry Production Practices Manual” during the daily work, all year round

15.- Avoid excessive number of farm concentration and stop building new production units in a determinate geographical zone

16 Develop a detailed road map of the poultry area where the farm/farms are located and implement vehicle movement control actions.

17.- Control of wild bird population in case of the presence of water bodies closed or in the nearby of the farms where migratory wild birds live

18.- Develop a harmonic and reliable working relationship with the sanitary veterinary authorities.

19.- In collaboration with the veterinary sanitary official authorities of each country, planify and accomplish an obligatory and compulsive passive and active epidemiological actions for tracheal and cloacal sampling for RT-PCR and viral isolation studies.

20.- RISK ANALYSIS.- Establish and implement a Risk Analysis Program, with trained personnel.

21.- COMMUNICATION. To communicate and to handle adequately the press: TV, Radio and Newspapers, it is necessary to appoint two official *port-paroles* for press releases once a day: one qualified person on behalf of the governmental official sector and one from the private sector (National Poultry Association).

22.- WAR ROOM. Establish central headquarters in a house or building as an Emergency Handling Center.

23.- All poor and rich countries must develop and built a COMPENSATION POLICY of a private economic contingency fund of money and significant resources to encourage poultry and other food animals producers to acknowledge and call sanitary veterinary officers in case of an abnormal clinical symptomatology and/or high mortality in their flocks or another type of food animals.

24.- An Avian Influenza epizootic must be considered as natural catastrophe, such as an earthquake, flooding or tsunami, in order to have immediate access of emergency resources from State and Federal governments.

25.- Create with the international cooperation and coordination system between the OIE, FAO and WHO organizations along with the local ministries of Agriculture and Livestock, an unprecedented effort to develop an strategic bank reserve of inactivated emulsified oil vaccine elaborated with the main Avian Influenza viruses subtypes of H5 and H7 and eventually H9 and a World Avian Influenza Viruses Strain Library.

26.- To extend and broaden the OIE Reference Laboratories Network for Avian Influenza in the World, to strategic countries, such as Mexico, in collaboration with local government in the five continents.

27.- Periodical training and teaching basic courses given to farm employees and veterinary staff in the main poultry areas in every country.

28.- Informative leaflets on Avian Influenza for backyard and fighting cocks owners

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