World Organisation for Animal Health
Founded as OIE

HPAI outbreak responses:

An integrated One Health approach

Cyprus

Dr. Christodoulos Pipis 18/12/2024

Vice President of the Regional Commission for the Middle East

Chief Veterinary Officer of Cyprus

Regional Coordination meeting on HPAI situation in the Middle East and action plans guided by Global HPAI Strategy , 17-19, December 2024 (Amman, Jordan)

Co-funded by the European Union

Cyprus profile

Poultry farming contributes significantly to the country's agricultural and food sectors, from both domestic **food supply** and the **economy point of view**.

Poultry Production (2023 data): 12.228198 animals.

Chicken is a sound protein source for Cypriot cuisine.

Scale of production: While relatively small compared to other EU countries, has a well organized poultry sector that ensures sufficient supply for its population.

Susceptible population for AI in the country: breeding, laying and free-range hens, free- range broilers, fattening turkeys, quails, partridges, captive birds and backyard poultry.

Challenges: Vulnerability to diseases like AI and Salmonella Enteritidis/Typhimurium, which can disrupt production.

Veterinary Services monitor regularly **farms** to check compliance with EU provisions and implementation of **high biosecurity standards** through national legislations.

World Organisation for Animal Health
Founded as OIE

Avian disease incidences - captive birds

- Outbreaks in **two** small establishments (captive birds & poultry) in Ammochostos district in 2022.

Symptoms have been observed (death of captive birds and chicken, neurological symptoms, lack of energy and appetite).

Samples: Two ducks and two geese (found dead).

Samples were sent to EURL for virus genotyping:

HPAI, H5N1 was confirmed on 2nd December 2022.

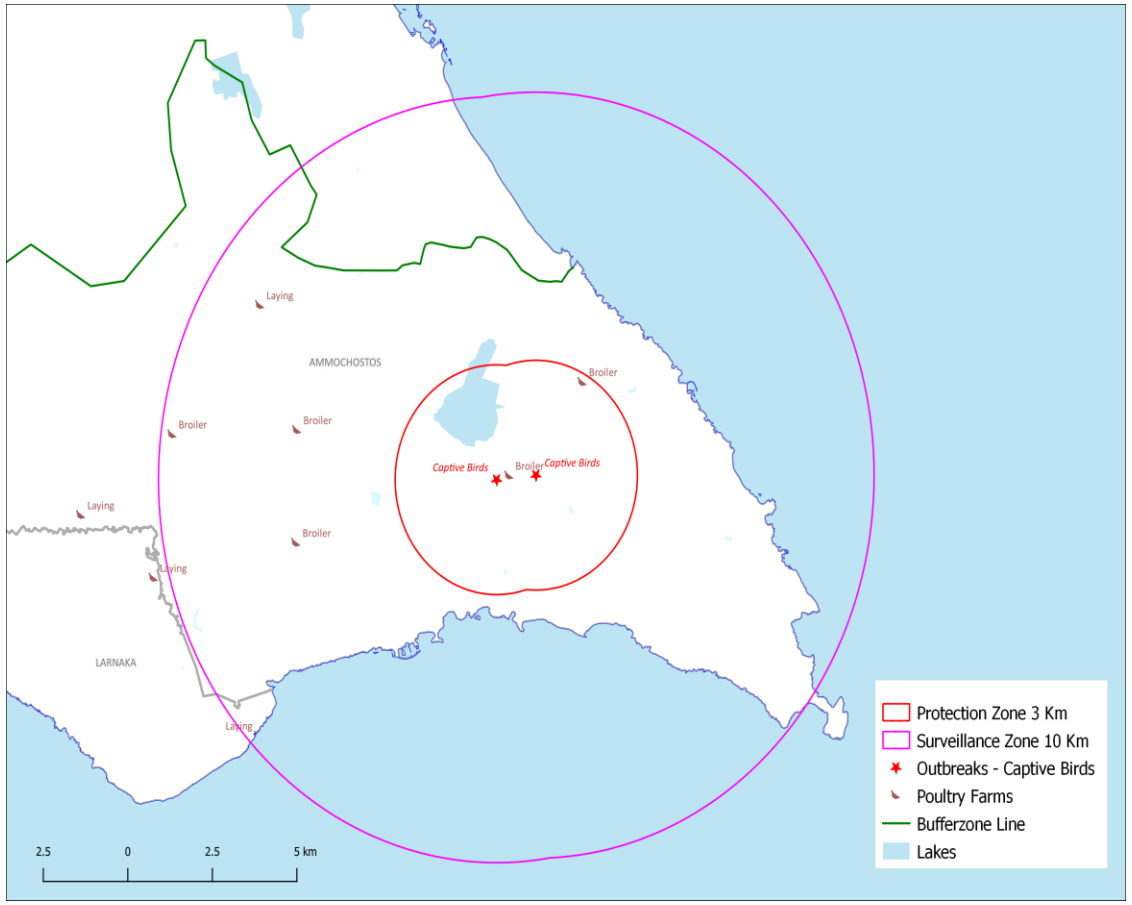
Probable source of infection: Attributed to contact with wild birds.

World Organisation for Animal Health
Founded as OIE

Actions taken to manage outbreaks in the small establishments in 2022

- **Action plan** for the control of the outbreaks.
- Infected establishments put **under official surveillance**, **movement restrictions** and **strengthening biosecurity measures**.
- **Official communication** to poultry farmers & poultry association, Veterinary association, Game Fund and Health Services for increasing awareness.
- Veterinary Services and Health Services **press release** to the public.
- **Culling of the birds on the spot** (846 birds), proper disposal of carcasses and eggs, cleaning and disinfection.
- **Establishment of restriction zones:** Establishment of a **protection zone** (3 km radius from the) and a **Surveillance zone** (10 km radius).

Cases Location in Ammochostos District



World Organisation for Animal Health
Founded as OIE

Report in ADIS and WAHIS

Epidemiological investigation - Protection zone: Visits of veterinary Officials to **two broiler** establishments keeping approximately 110,000 birds for on-the-spot clinical examination and testing (**no clinical signs/all samples taken were tested negative).**

Epidemiological investigation - Surveillance zone: Visits of veterinary Officials to **three broiler** and **one free range laying hens'** establishments keeping approximately 60,300 and 6,200 birds, respectively, for on-the-spot clinical examination and testing (**no clinical signs/all samples taken were tested negative).**

World Organisation for Animal Health
Founded as OIE

Budgetary management of the two incidences

- **Costs of response measures**

The response measures and compensation cost is covered by the **budget of the Veterinary Services.**

The two animal owners were **compensated** with the total amount of **82.566,10 €** for culled and dead birds including cost of cleaning and disinfection.

World Organisation for Animal Health
Founded as OIE

Avian disease situations-wild birds

- **Wild birds two positive cases:**

1) 28th November 2022 (**Anas platyrhynchos,** found dead in Nicosia district, **HPAI - H5N1**).

2) 2nd February 2024 (**Falcon pelegrinus,** found dead in Paphos district, **HPAI –H5N1**) Last positive case.

Case Location Lefkosia

Case Location Paphos

World Organisation for Animal Health
Founded as OIE

Surveillance

The national surveillance programme according **to Regulation (EU)2020/689, targets poultry population.**

Includes **active surveillance and sampling from laying hens, free range laying hens, fattening turkeys, quails and partridges.**

Early detection system apply to all poultry population (epidemiological investigation and sampling in case of relevant symptoms and increased mortality).

The HPAIearly detection for **wild birds** is based on **sampling** and **testing** of **birds** that have been found **dead** or **moribund** and **includes surveillance at high-risk areas** of the island which are areas close to lakes and waterways and priority locations for wild birds during their migratory movement.

Surveillance 2024

Results of recent surveillance (until 30/11/2024):

Total # tests poultry: 842

Total # tests wild birds: 198

Only one positive wild bird case HPAI –H5N1 : 2nd of February 2024 **(Falcon pelegrinus)** in Paphos district.

Measures of prevention practiced in the country against HPAI

Measures	Y/N	Description
1. Programme to control or eradicate disease/disease surveillance	Y	Surveillance programme for early and timely detection of HPAI in poultry and wild birds according to Regulation (EU) 2020/689
2. Veterinary legislation	Y	• Regulation (EU) 2016/429, Animal Health Law. • Regulation(EU)2020/689, as regards on surveillance, eradication programmes and disease-free status. • Regulation(EU)2020/687, as regards rules for the prevention and control of certain listed diseases. • National Animal Health Law 109 (I) 2001
3. Emergency preparedness and response plans / detection and management of cases	Y	National action plan according to Regulation (EU) 2020/687, Stimulation exercise and trainings
4. Disease reporting	Y	WOAH, ADIS, EFSA

Measures of prevention practiced in the country against HPAI

Measures	Y/N	Description
7. Measures to prevent introduction or spread of disease	Y	• Surveillance programme in poultry and wild birds • Strengthen biosecurity measures. • Obligatory keeping backyard poultry in closed confinements • Separate keeping of ducks and geese from other poultry species. • Obligatory keeping of feeders and drinkers for poultry, game birds and birds in captivity in closed or covered areas, in order to prevent the landing and the contact of wild birds with feed and water. • National action plan in case of an outbreak according to Regulation (EU) 2020/687
8. Vaccination	N	Not applicable

Measures of prevention practiced in the country against HPAI

Measures	Y/N	Description
9. Measures to protect public health	Y	Increasing awareness of the poultry farmers and general public,(official letters ,press release),close cooperation between the Veterinary Services and Heath Services in relation of the outbreaks and implementation of preventive measures (avoid contact with birds, proper hygiene, cook poultry thoroughly, use protective equipment when handling birds, monitor individuals/poultry workers exposed to infected birds), enforce strict biosecurity measures in poultry farms

Measures of prevention practiced in the country against HPAI

Measures	Y/N	Description
10. Communication and collaboration among all competent authorities	Y	Close communication and cooperation among Health Services, Veterinary Association, Game Fund, stakeholders and poultry association, to ensure timely responses, coordinated action, action plans in place in case of outbreaks, Stimulation exercises and trainings at EU level to test coordinated response plans, “One Health” approach.
11. Awareness programme for relevant stakeholders	Y	Official letter sent every year to all poultry farmers individually, poultry association and Veterinary Association to increase awareness and strengthening biosecurity measures, trainings, press release for backyard poultry owners and general public.

World Organisation for Animal Health
Founded as OIE

Laboratory capacity

- The **Virology Laboratory** is the **NRL** for the diagnosis of AI in Cyprus. It participates in the EURL-AIV's proficiency tests every year and has been accredited since March 2008 to **ISO 17025:2005** under the **Hellenic Accreditation System** (ESYD) and since January 2016 under the **Cyprus Accreditation Body** (CYS-CYSAB), using the criteria of the Cyprus Organisation for the Promotion of Quality.

- The laboratory is staffed by **one Veterinary Officer** and **two laboratory technicians**, who are fully trained in cultural, serological and molecular techniques for the diagnosis of AI.

- The **AI virus isolates** are sent to the **EU Reference Laboratory** for typing.

World Organisation for Animal Health
Founded as OIE

Type of diagnostic tests

Serological tests (serum sample):

- Competitive **ELISA** for the detection of antibodies against the nucleoprotein of the influenza A virus.
- **Hemagglutination – inhibition test** (**HI**) Detects subtypes (H5N3, H7N7, if positive H1-H10 with 2 different neuraminidases for each subtype).

Virus detection tests (Tracheal or oropharyngeal or cloacal swabs):

- **Immunochromatographic assay kit** (lateral flow devices) for rapid, qualitative detection of AIV antigen.
- **Real Time** Reverse Transcription-**Polymerase Chain Reaction**
- **Virus isolation**(embryonated chicken eggs).

Challenges and solutions in implementing national plan

Challenges	Solutions
Difficulty enforcing biosecurity measures in poultry farmers-lack of recourses	Educate poultry farmers about the importance of biosecurity measures and disease prevention. Promote implementation of high biosecurity standards through national legislation
Limited control of migratory bird population which are natural reservoir of the virus	Close cooperation with Game Fund to track migratory patterns and collect and test wild birds for early detection of HPAI
Farmer resistance to culling infected animals, due to financial losses	Fair compensation to farmers and encouragement of early reporting
Distinguished roles among Animal Health, Public Health Services and relevant sectors, poor collaboration and lack in sharing knowledge and data	One health approach, harmonize policies and action plans, stimulation exercises for outbreak preparedness and response, holistic strategy and close cooperation among all competent authorities

World Organisation for Animal Health
Founded as OIE

Thank you

Co-funded by the European Union