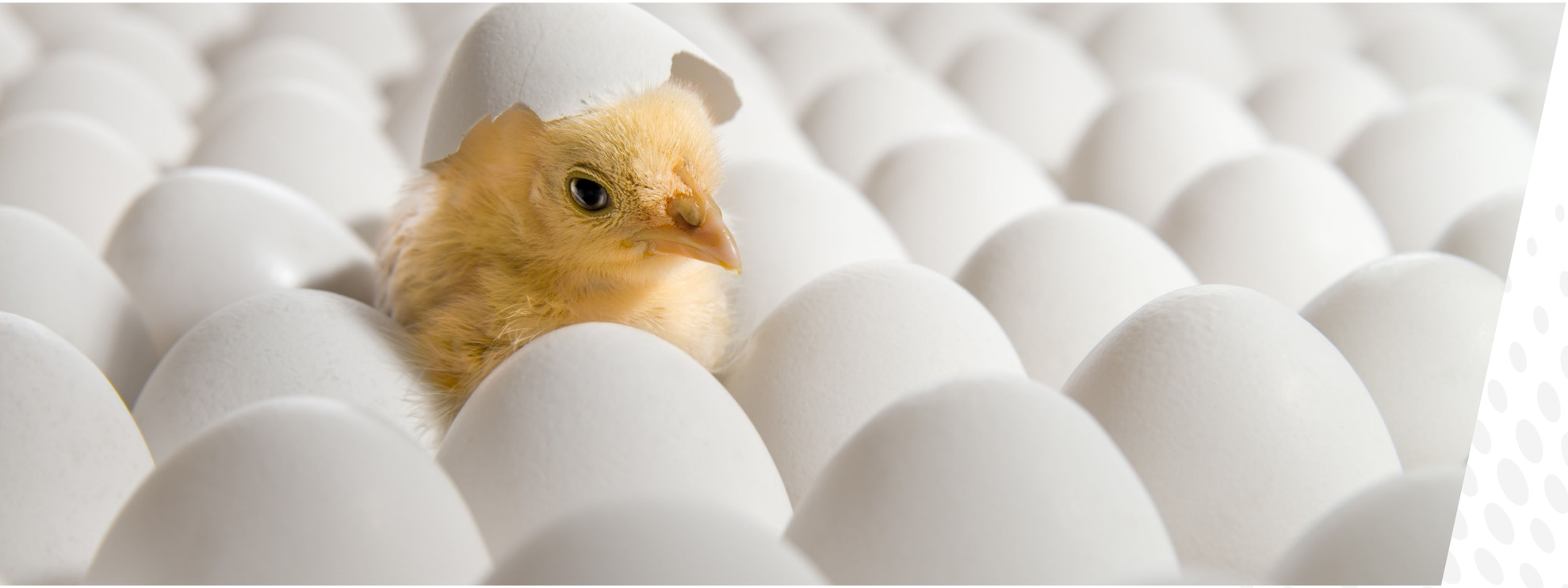
9th INTERNATIONAL SCIENTIFIC CONFERENCE OF VETERINARY MEDICINE STUDENTS

Warszawa, 11/05/2024



Polish poultry production – the largest supplier in EU.
Two main poultry diseases: Avian Influenza and New Castle disease.
Why are they so important?

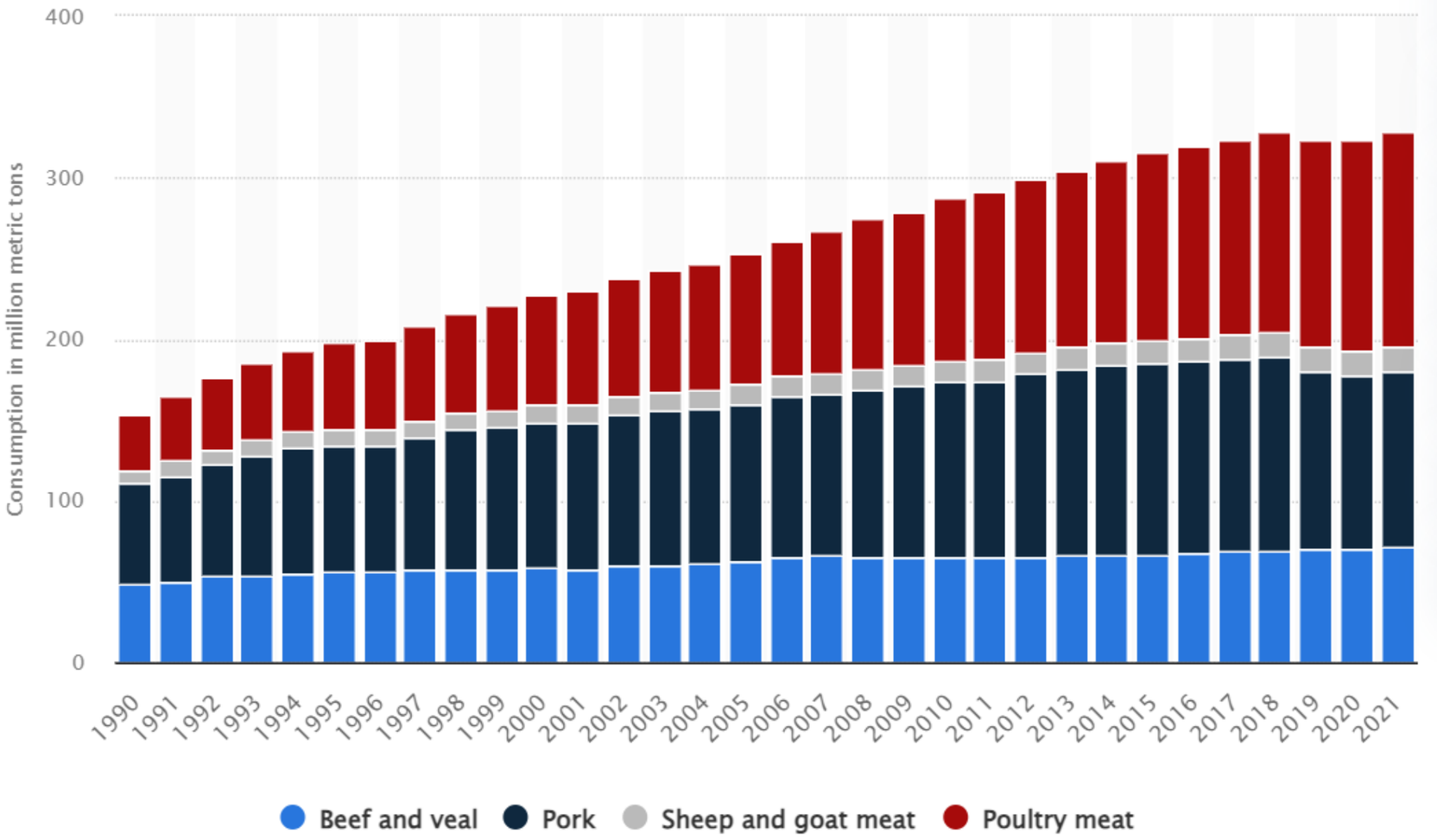
MARTA KRUPA

I gained my veterinary qualification at the University of Life Sciences in Lublin in 2006. I am also the poultry diseases specialist (2017-2019, National Veterinary Research Institute (NVRI) in Puławy).

My job as a Key Account Manager in **Phibro Animal Health Poland** focused on retaining top polish poultry customers (vets, intergators) and nurture those key relationships over time to work together for mutual benefit.

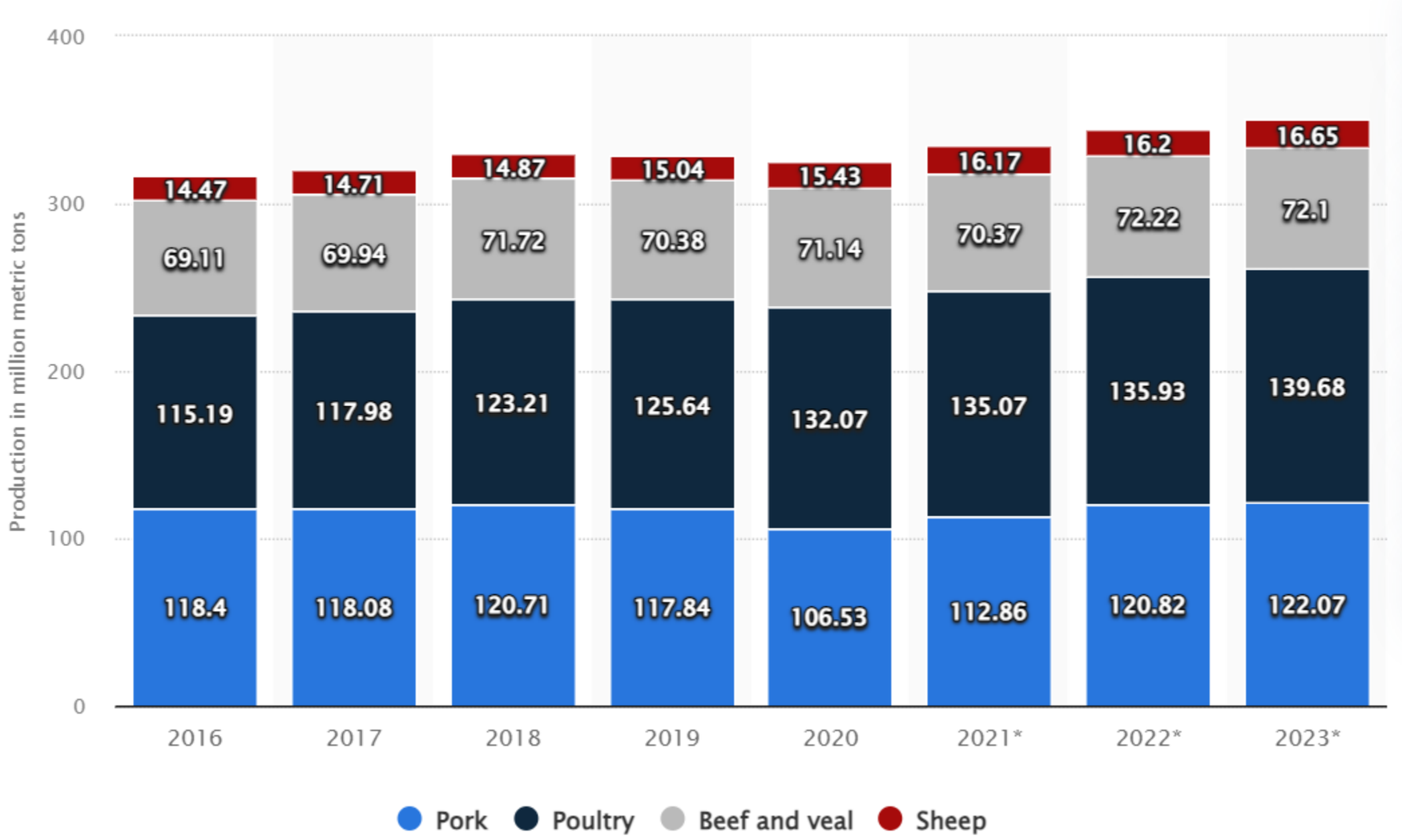
Meat consumption worldwide from 1990 to 2021, by meat type

(in million tons)



Meat production worldwide from 2016 to 2023, by meat type

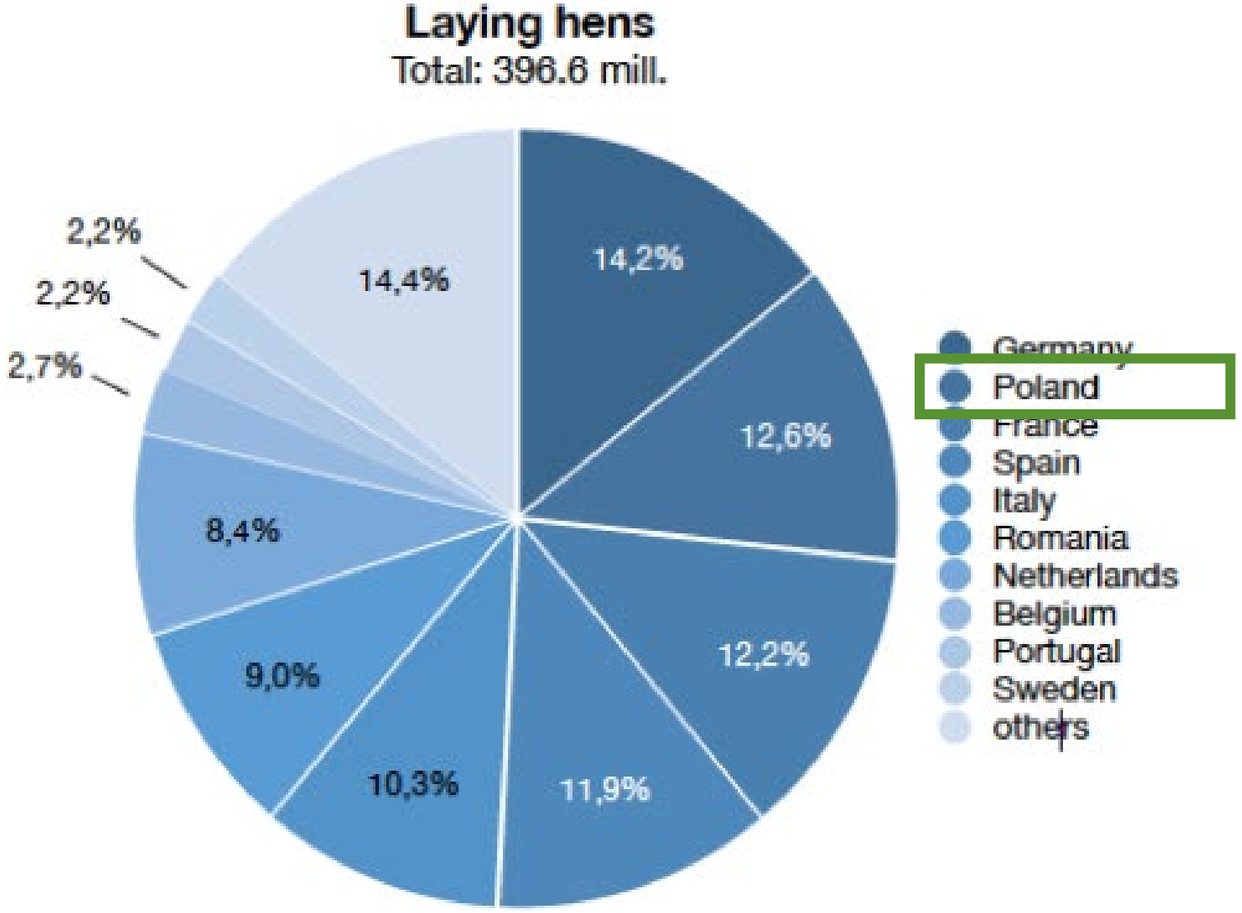
(in million tons)

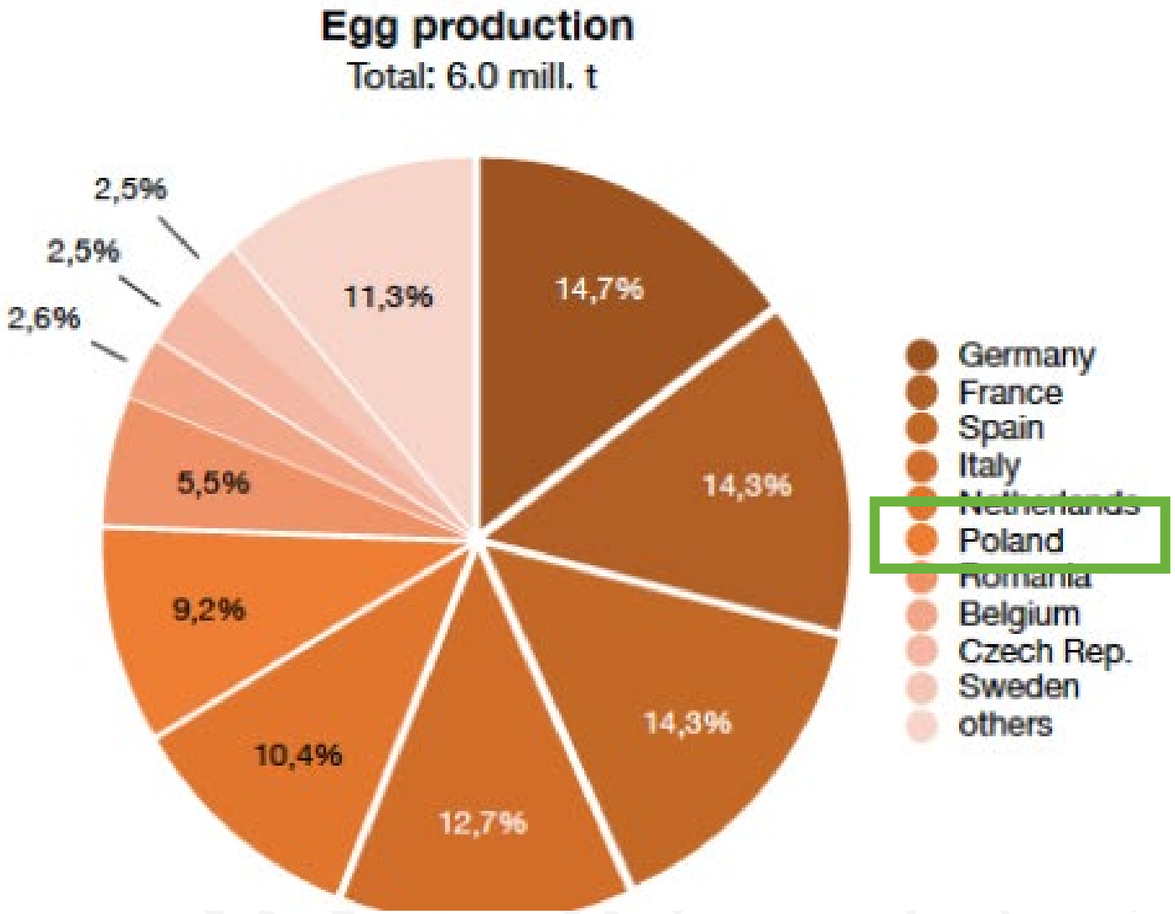


Production (updated 2022)

2. Gross domestic production of poultry meat in the EU ('000 tonnes carcass weight)

	2017	2018	2019	2020	2021	2022
Austria	129	132	134	144	150	150
Belgium / Luxembourg	463	470	417	448	449	437
Denmark	156	159	169	165	162	160
Finland	130	135	140	142	147	152
France	1,857	1,788	1,790	1,733	1,684	1,554
Germany	1,802	1,818	1,824	1,807	1,754	1,752
Greece	246	220	230	240	270	270
Ireland	142	146	154	166	163	165
Italy	1,354	1,314	1,324	1,390	1,374	1,237
Netherlands	1,096	1,038	1,036	996	869	863
Portugal	337	342	348	349	359	364
Spain	1,454	1,427	1,392	1,420	1,374	1,374
Sweden	157	155	160	172	182	187
Bulgaria	107	111	109	102	102	102
Cyprus	25	26	27	27	27	27
Czech Republic	183	193	196	200	200	191
Estonia	20	19	20	15	15	15
Hungary	602	669	688	666	719	712
Croatia	66	64	68	70	71	75
Latvia	33	33	35	35	36	34
Lithuania	134	108	100	101	87	87
Poland	2,511	2,597	2,863	2,981	2,762	2,963
Romania	436	480	507	487	452	460
Slovakia	71	75	71	58	56	56
Slovenia	68	69	70	73	72	75
EU 27	**13,583**	**13,590**	**13,876**	**13,989**	**13,540**	**13,465**



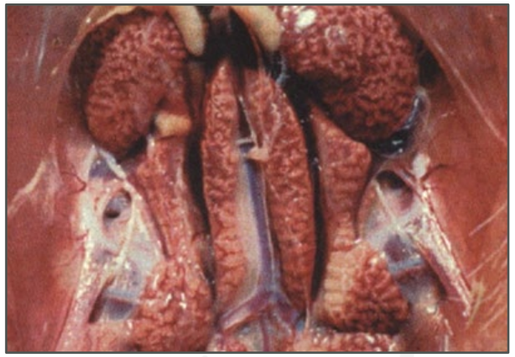
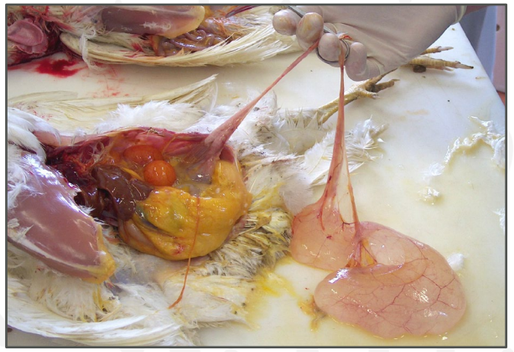
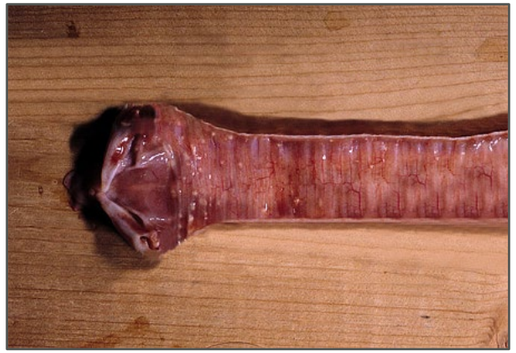


LEKARZ WETERYNARII

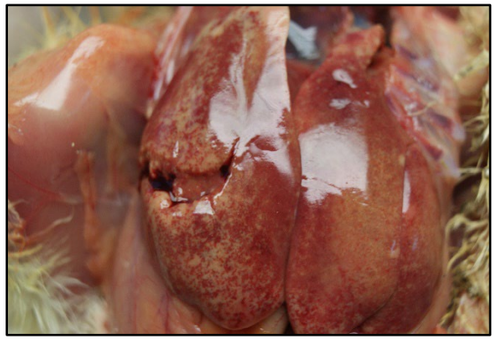
1. unique species
2. veterinary care
3. maintance
4. scale of production

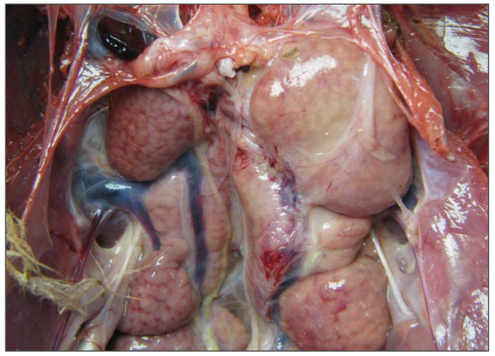
1. Working place - flock
2. Post mortem examination
3. Clinical examination

1. ELISA
2. PCR
3. SWABS - CULTURE

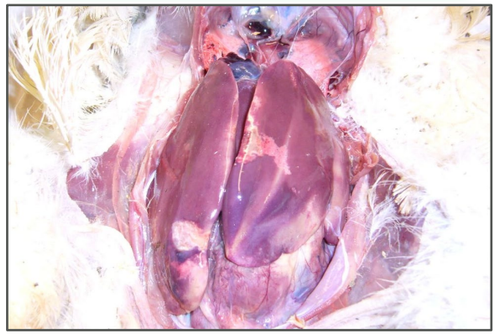
AI Avian influenza	APV/TRT Avian pneumovirus	ND Newcastle disease	IB Infectious bronchitis
			
			
			

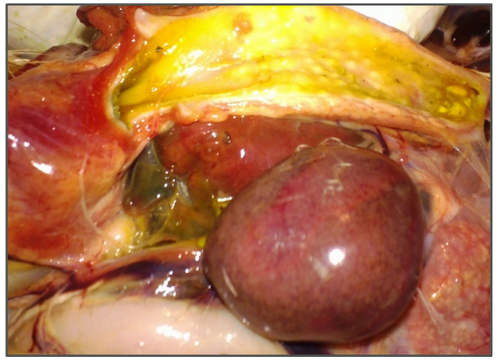
FAV/IBH
Inclusion body hepatitis

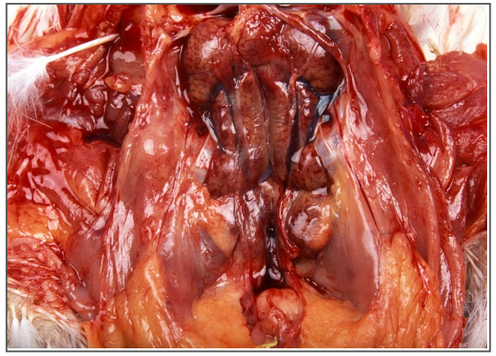




Hepatitis E
BLS - Big Liver Syndrome

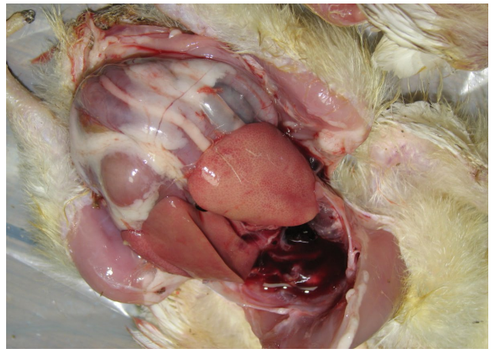
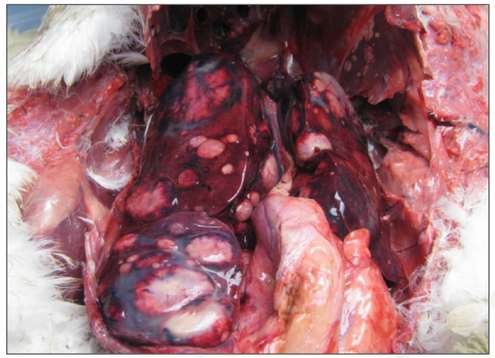
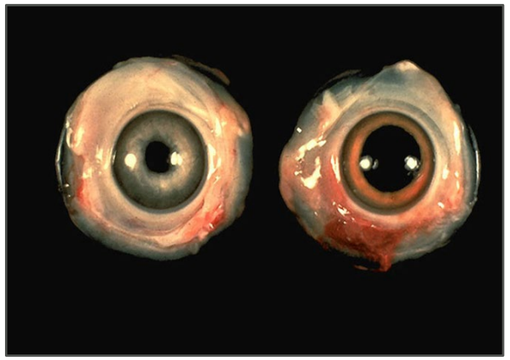
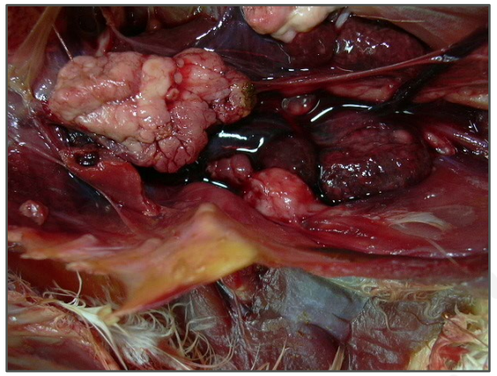
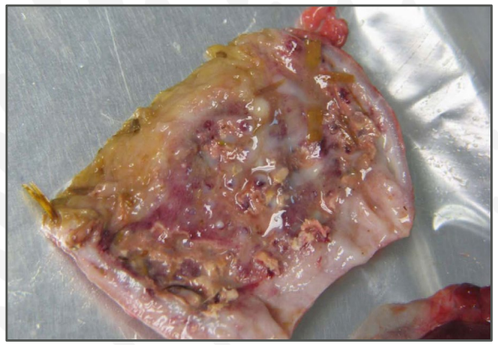






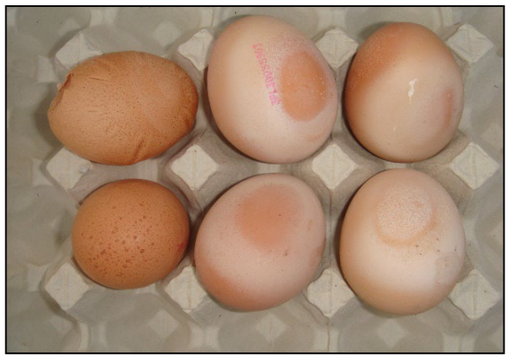
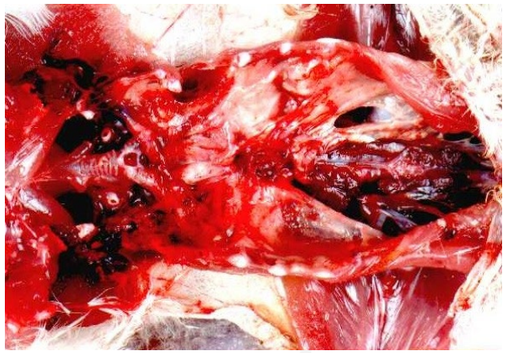
TVP
Transmissible proventriculitis

Reo ERS
Reovirus ERS infection

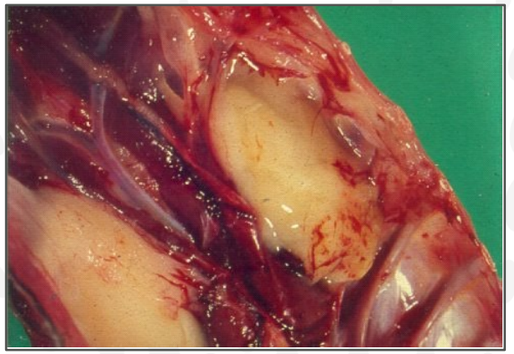
MD Marek disease	RSS Runting Stunting Syndrome	ALV Avian leukosis	REV Reticluoendotheliosis
			
			
			

IC Infectious coryza	ILT Infectious Laryngotracheitis	Ms Mycoplasma synoviae	ORT Ornitobacteriosis









Listed diseases Art. 5(1) and Annex II (amended by Regulation (EU) 2018/1629)

- Foot and mouth disease
- Classical swine fever
- African swine fever
- Highly pathogenic avian influenza
- African horse sickness
- Rabies
- Bluetongue
- Rinderpest virus
- Rift Valley fever virus
- *Brucella abortus/melitensis/suis*
- *M. bovis/caprae/tuberculosis*
- Glanders
- Equine arteritis virus
- Bovine rhinotracheitis
- Bovine viral diarrhoea
- Bovine genital campylobacteriosis
- Contagious equine metritis
- Lumpy skin disease
- Contagious bovine pleuropneumonia
- *Echinococcus multilocularis*
- Epizootic haemorrhagic disease virus
- Anthrax
- Surra (Trypanosoma evansi)
- Ebola
- Paratuberculosis
- Japanese encephalitis
- West Nile fever
- Q fever
- Trichomonosis
- Enzootic bovine leukosis
- Sheep pox and goat pox
- Peste des petits ruminants
- Contagious caprine pleuropneumonia
- Venezuelan equine encephalomyelitis
- *Salmonella pullorum/gallinarum/arizonae*
- Low pathogenic avian influenza
- Equine infectious anaemia
- Equine encephalomyelitis
- Aujeszky's disease
- Porcine reproductive and respiratory syndrome
- Newcastle disease
- Avian mycoplasmosis
- Viral haemorrhagic septicaemia
- Infectious haematopoietic necrosis
- Avian chlamydiosis
- Infectious salmon anaemia (HPR del)
- Koi herpes virus disease
- *Mikrocytos mackini*
- *Perkinsus marinus*
- *Bonamia ostreae*
- *Bonamia exitiosa*
- *Marteilia refringens*
- Taura syndrome virus
- White spot syndrome virus
- Yellow head virus

USTAWA

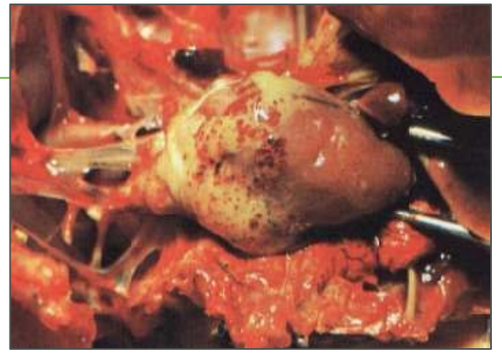
z dnia 11 marca 2004 r.

Opracowano na podstawie: Dz.U. z 2004 r. Nr 69, poz. 625.

o ochronie zdrowia zwierząt oraz zwalczaniu chorób zakaźnych zwierząt[1)]

European Commission

AI
Avian influenza



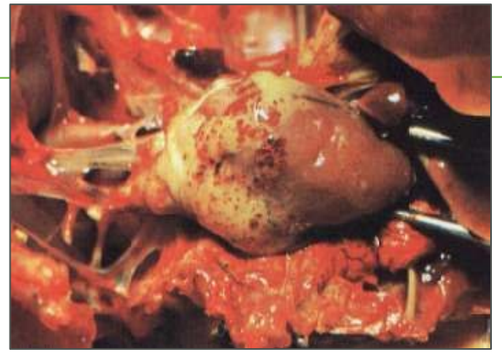
Newcastle disease virus **(NDV),** member of the Paramyxoviridae family and avian influenza virus **(AIV),** member of the Orthomyxoviridae family, are two main avian pathogens causing serious economic problems in poultry health.

Both are **enveloped, single-stranded**, negative sense RNA viruses and **cause similar symptoms, ranging from sub-clinical infections to severe diseases**, including decrease in egg production, acute respiratory syndrome, and high mortality.

Similar symptoms hinder the differentiation of infection with the two viruses by standard veterinary procedures like clinical examination or necropsy.

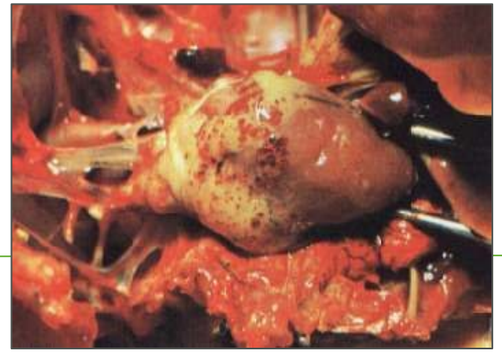
ND
Newcastle disease

AI
Avian influenza



1. All age, production type.
2. Easy spreading.
3. Wild birds – reservoir.
4. Localized infection (respiratory tract, enteric tract), systemic infection.
5. Mortality up to 100%.
6. Zoonotic risk.

ND
Newcastle disease



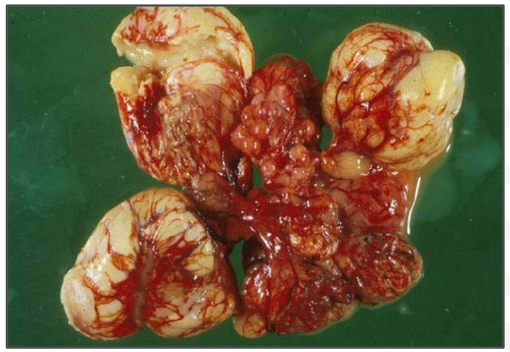
AI
Avian influenza

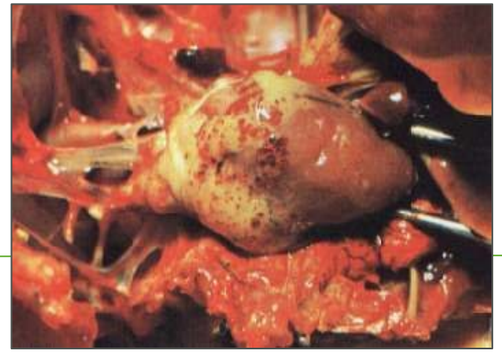
LPAI - no clinical signs in adult birds, respiratory disorder

Mesogenic strains – respiratory, nervous disorder, low mortality
Lentogenic strains – respiratory disorders, no mortality
Lentogenic asymptomatic – no clinical signs, no mortality

IMMUNOSUPRESSION, SECONDARY INFECTIONS

ND
Newcastle disease



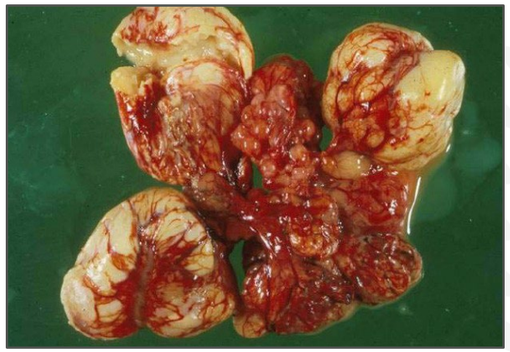
AI
Avian influenza

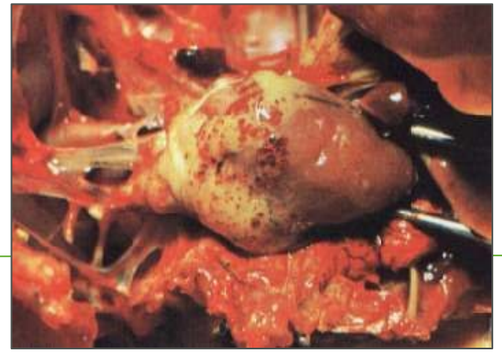
Velogenic viscerotropic – intenstinal damage
Velogenic neurotropic – respiratory and nervous disorder

100% MORTALITY, DEPOPULATED THE FLOCK, QUARANTINE ZONE

HPAI - no pathognomonic lesions, necrosis combs, wattles, hemorrhage in the legs, feet, petechial hemorrhages, necrotic foci: liver, spleen, kidneys, pancreas

ND
Newcastle disease





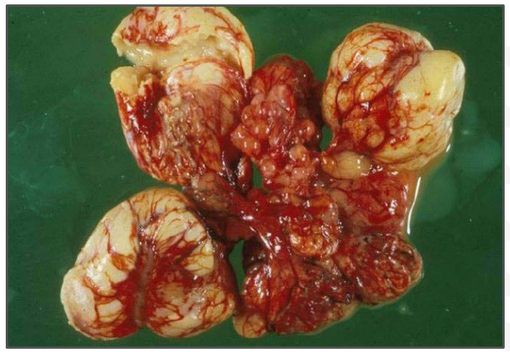
AI
Avian influenza

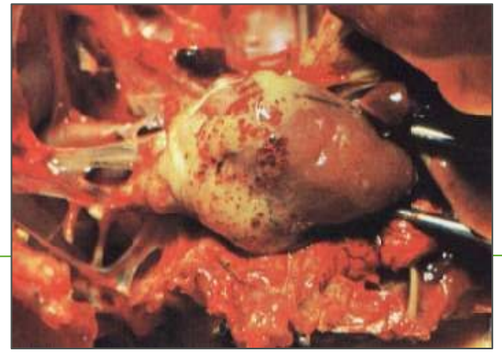
VACCINATION

2023: 4 outbreaks – 80k birds

2024: 566 594 birds
2023: 1 032 341 birds
2022: 2 088 235 birds
2021: > 14 000 000 birds

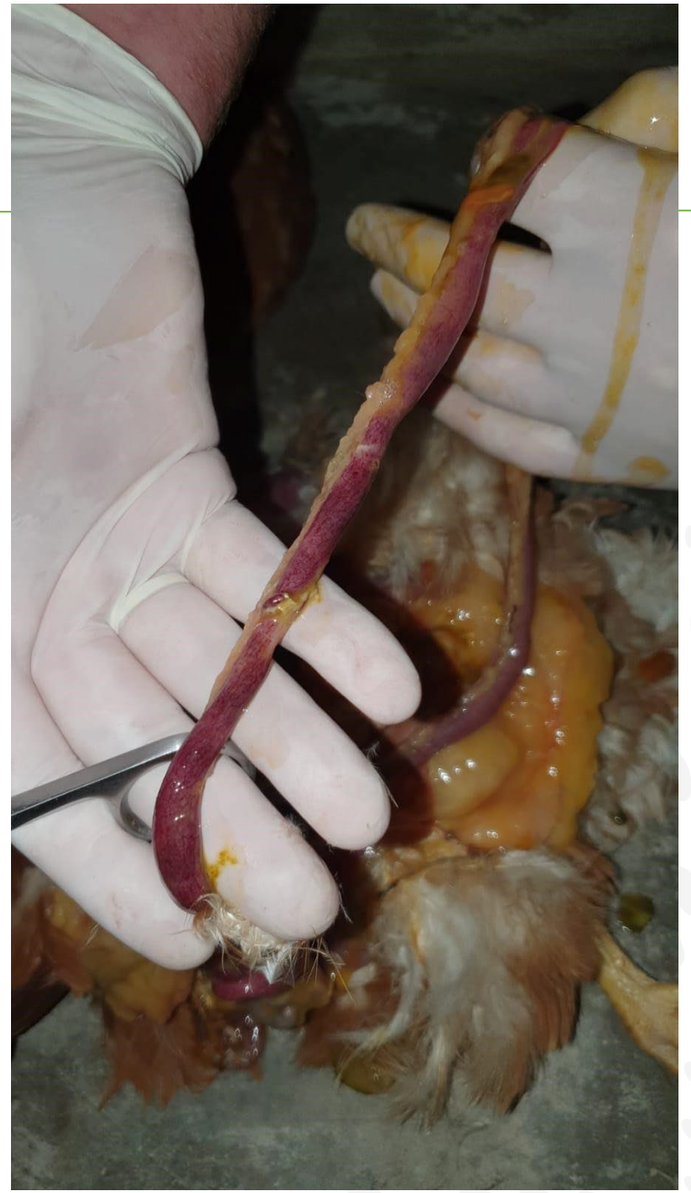
ND
Newcastle disease

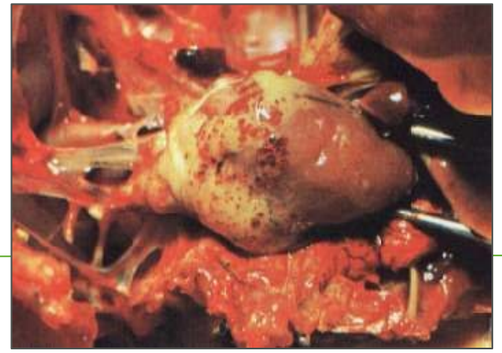




AI
Avian influenza

MONITORING – blood/serum: 10 (chicks); DEATH BIRDS: swabs, organs
SUSPICION: at least 5 birds death or sick (brain, liver, spleen, kidneys, lungs, trachea, intenstines); at least 20 swabs trachea/choana; ev. 20 blood samples





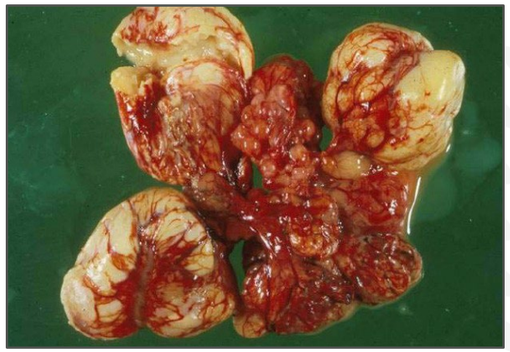
AI
Avian influenza

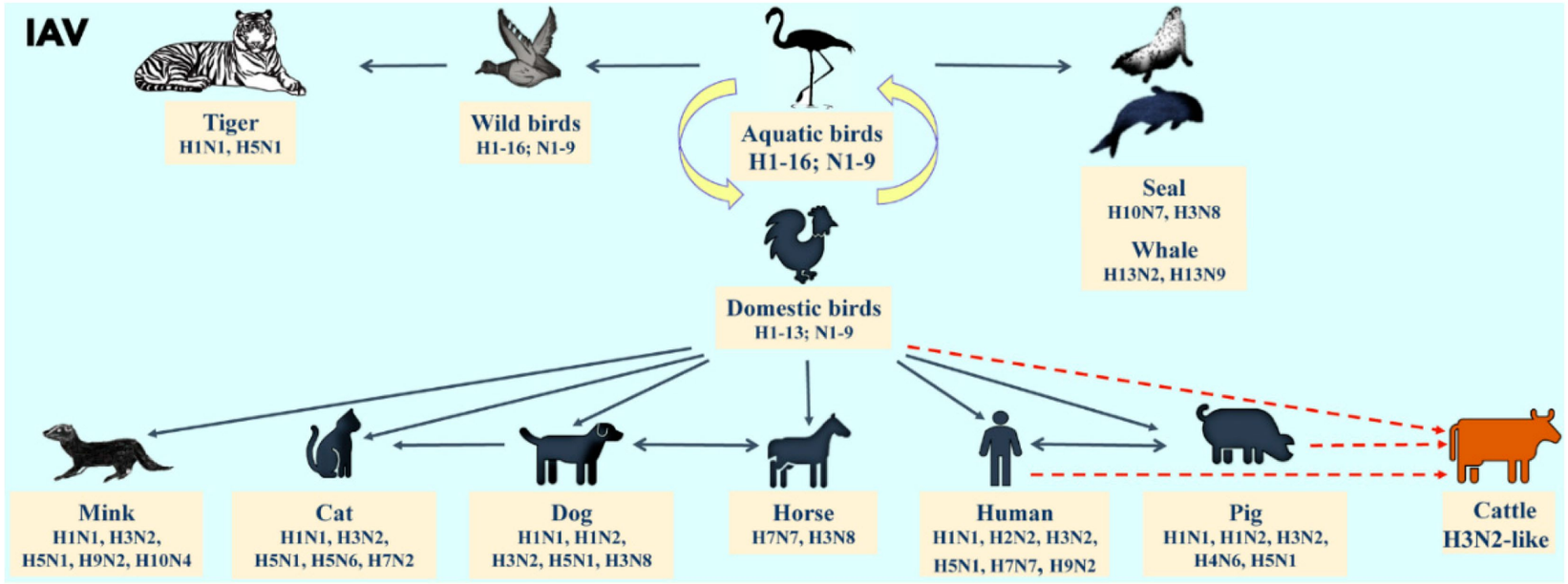
PUBLIC HEALTH – ZOONOSIS

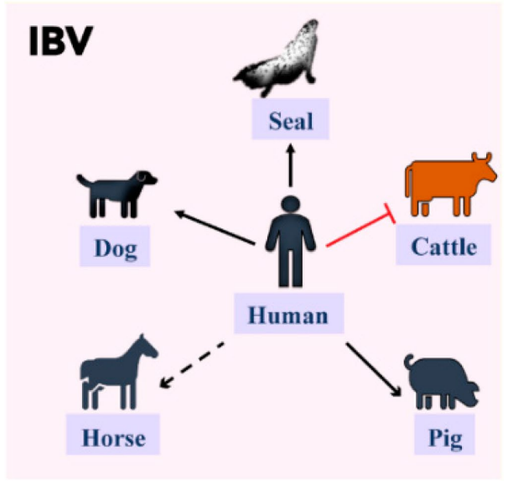
Acc European Centre for Disease Prevention and Control – ECDC risk of infection H5N8 is low/very low; H5N1 – 862/455; H7N9 – 1568/616.

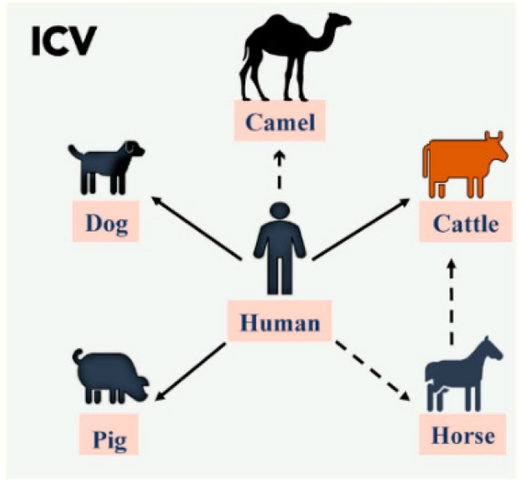
- conjunctivitis
- eyelid edema, watery eyes
- headache
- fever

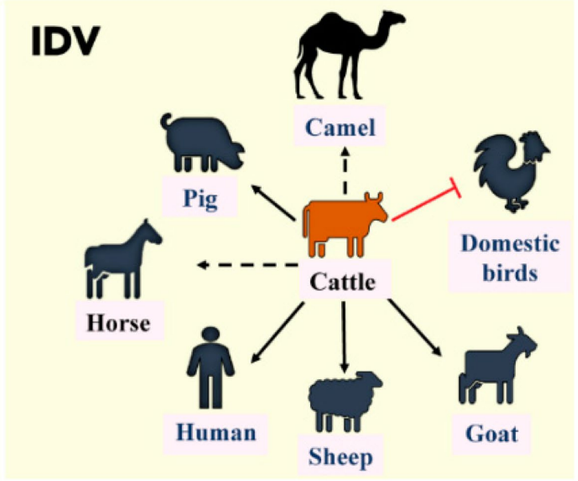
ND
Newcastle disease







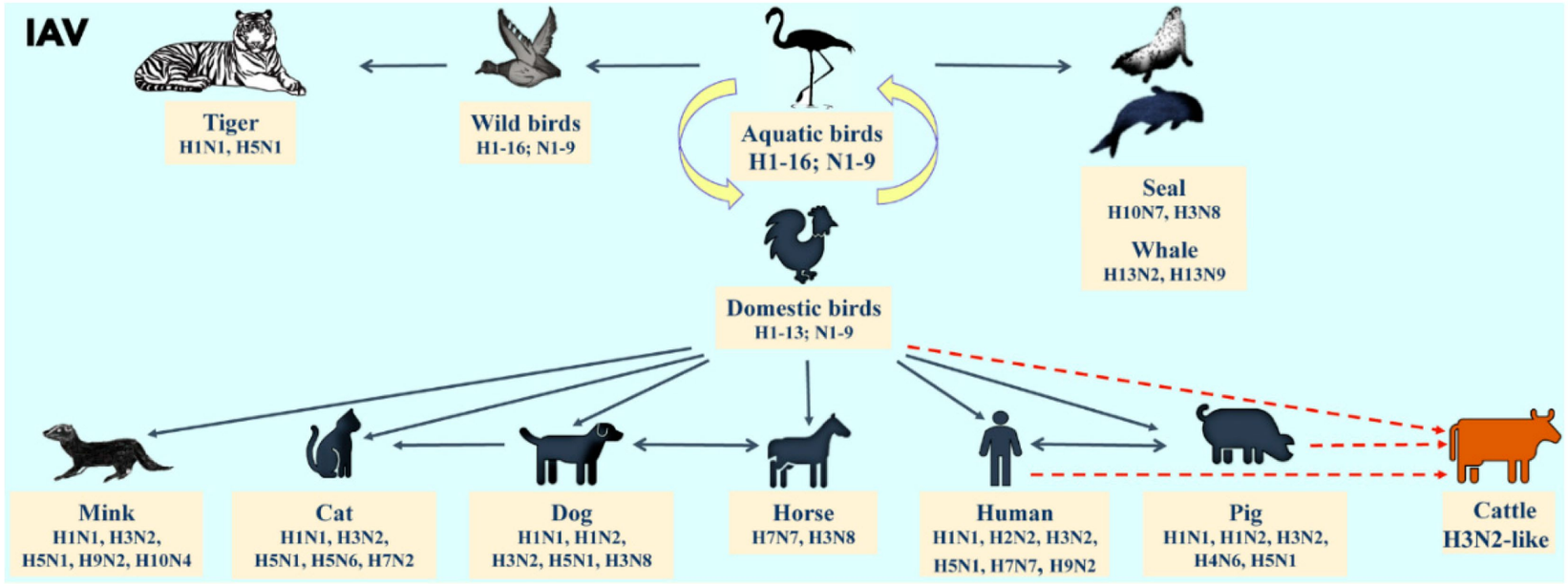


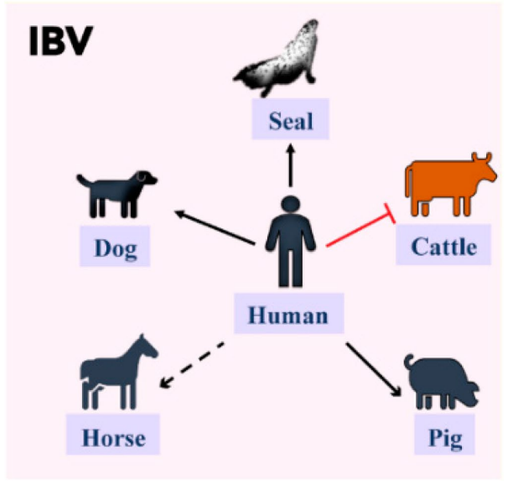


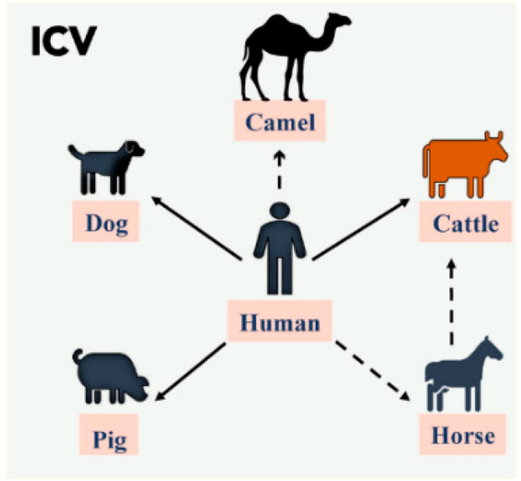
IVs TYPES: A, B, C i D.
HUMAN FLU: A, B.
BIRDS: A

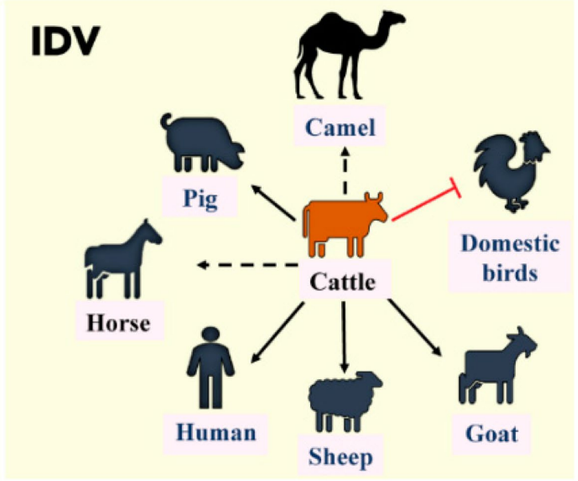
Hemagglutinin (HA) is glycoprotein found on the surface of influenza viruses and is integral to its infectivity;
HPAI BIRDS: SOME H5, H7
LPAI BIRDS: SOME H5, H7 (other H suptypes 1-16)

Influenza A viruses are endemic (can infect and regularly transmit) in 6 animal species or groups (wild waterfowl, domestic poultry, swine, horses, dogs, and bats) in addition to humans.









Avian influenza A (bird flu) viruses may be transmitted from infected birds to other animals, and potentially to humans, in two main ways:
- directly from infected birds or from avian influenza A virus-contaminated environments.
- through an intermediate host, such as another animal.

Direct infection can occur from exposure to saliva, mucous or feces from infected birds. Bird flu infections among people are rare; however, human infections can happen when enough virus gets into a person's eyes, nose, or mouth or is inhaled.

World Health Organization | Health Topics | Countries | Newsroom | Emergencies

Disease Outbreak News

Influenza A(H5N1) in cats – Poland

Stacje sanitarno-epidemiologiczne

Szukaj usługi, informacji | SZUKAJ

- Strona główna
- Rada Ministrów
- Kancelaria Premiera
- Ministerstwa
- Urzędy, instytucje i placówki RP

Powiatowa Stacja Sanitarno-Epidemiologiczna w Lubinie

O PSSE | Co robimy | Aktualności

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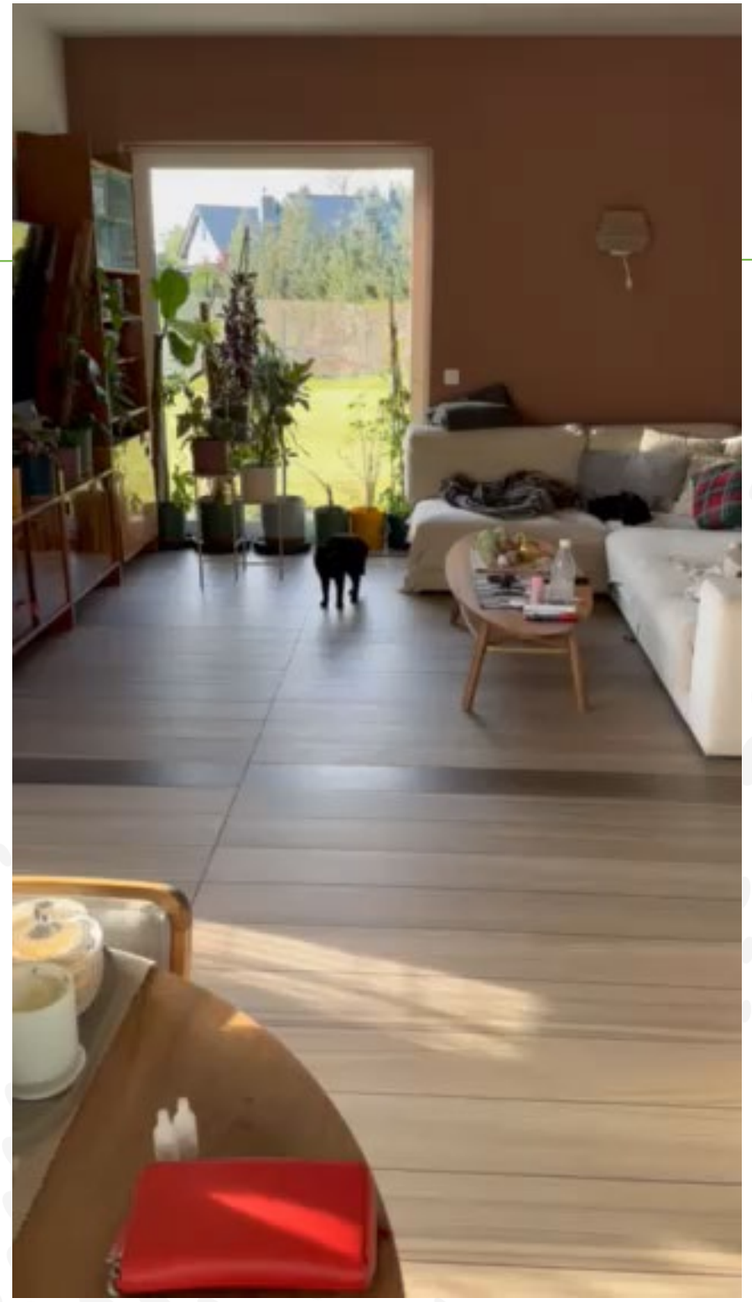
Powrót

GRYPA AH5N1 u kotów domowych



While it primarily affects poultry and wild birds, avian influenza can occasionally be transmitted to mammals, including cats.
Cats are unusual hosts of avian influenza.

Polish isolates from cats is H5N1 genotype CH, which was isolated in 2023 from white stork.

Is it possible – technically yes. Is it confirmed – no.

Thank you very much!

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