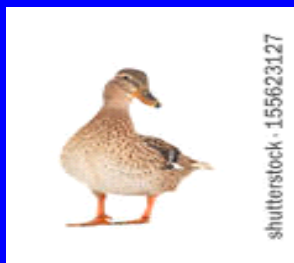


50 million and counting:  
**HPAI in the US**  
*Dec. 2014 to Present*



Michele Walsh, DVM  
State Veterinarian



Maine Department of Agriculture,  
Conservation & Forestry

# Why are we here?

- Largest FAD outbreak in US to date – **over 50 million** domestic birds have died or been euthanized
- IWG members were REALLY interested (BYP enthusiasts?)
- Strains from current HPAI outbreak = *NO ZOONOTIC POTENTIAL*



# Bird flu and danger to humans

Bird flu, or avian flu, has a high mortality rate but as of yet, ~~can~~ cannot be transmitted from birds to humans.

## Infection with type A

**1** Most virulent bird flu viruses mutate rapidly, altering their genetic material

**2** Humans infected with live infected poultry

**3** Birds carry virus and excrete it in feces, which dries, becomes pulverized and then can be inhaled or taken into touch

**4** Humans have no immunity against this virus

## Reason for concern

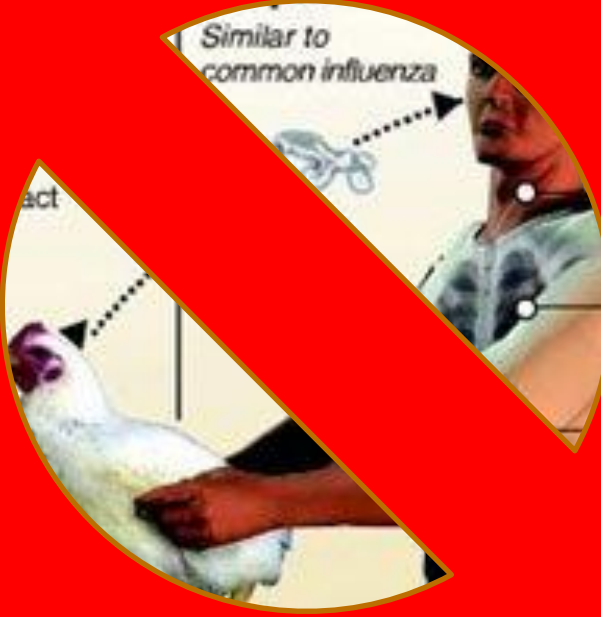
Humans infected with bird flu could serve as a host for a new genetic subtype that can be transmitted from person to person



Might start influenza pandemic



Similar to common influenza



February 20th, 2006:  
remain a rare event."

Fatigue  
Fever  
Conjunctivitis

Throat

Muscle aches

## When untreated

Rapid deterioration;  
viral pneumonia leading  
to respiratory distress,  
kidney failure, multi-  
organ failure, death

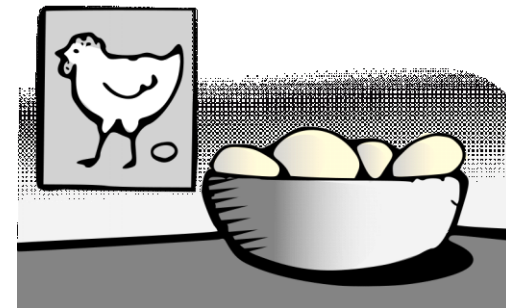
# Quick history of HPAI in the Americas

- HPAI is considered a *foreign animal disease (FAD)* in the Americas
- HPAI outbreaks, 1983 – present:
  - Pennsylvania 1983-84 (17 million birds)
  - Mexico 1994-95 (Millions of birds)
  - Chile 2002 (2 million birds)
  - Canada & Connecticut 2004 (17+ million birds)
  - And British Columbia/US 2014-15 (PNW, Central, MS flyways...50 million birds & counting)

# Impact to Date

## HPAI Statistics, since Dec 2014

- 21 States affected
- 232 Positive premises (**211 commercial, 21 BYF**)
- 3,200 Responders
  - 160 APHIS employees
  - 200 State personnel
  - 2,900 Contractors
- \$1 billion cost (*response + indemnity*)
- Losses from disease or depopulation represent:
  - 7.46 % of U.S. turkey inventory
  - 10.01 % of U.S. average layer inventory
  - 6.33 % of U.S. average pullet inventory
  - < 0.01% of U.S. broiler inventory
- No new infections since 6/18/15, **but...**



Safeguarding Animal Health



# Threat to New England - Migration





# Where did it come from?

## AI Reservoirs

Blue Wing Teal



Mallards



- AI naturally found in wild birds
- Not known to cause disease in its natural host (“low path”)
- The complete host range is not known

# Emergence of HPAI – “typical” pattern



LPAI H5 or H7  
virus transmitted to  
poultry



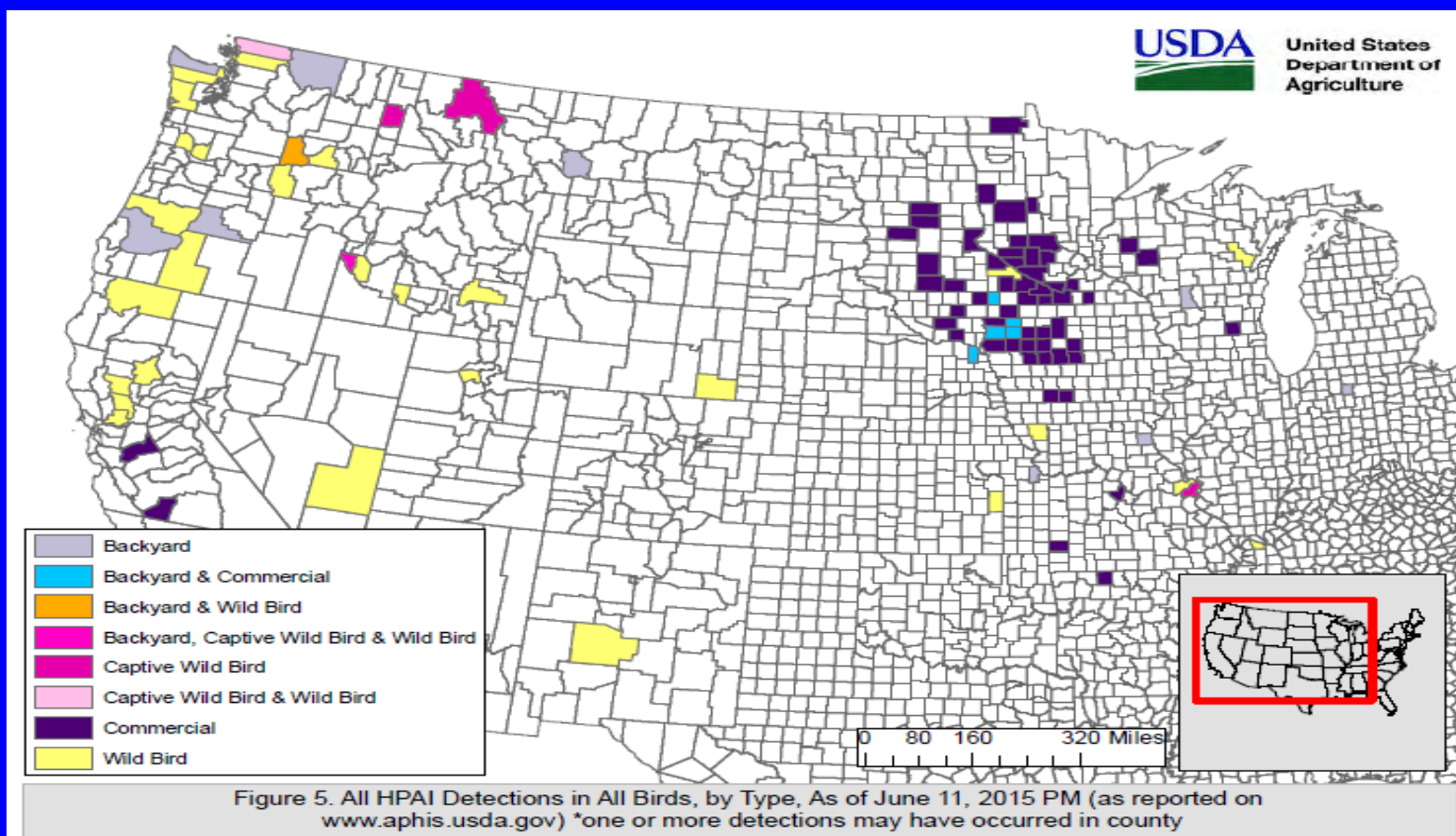
LPAI virus  
circulates in poultry  
with mild disease\*



LPAI Virus Mutates  
to HPAI with severe  
disease



# HPAI Detections in All Birds by Type (June 11, 2015)

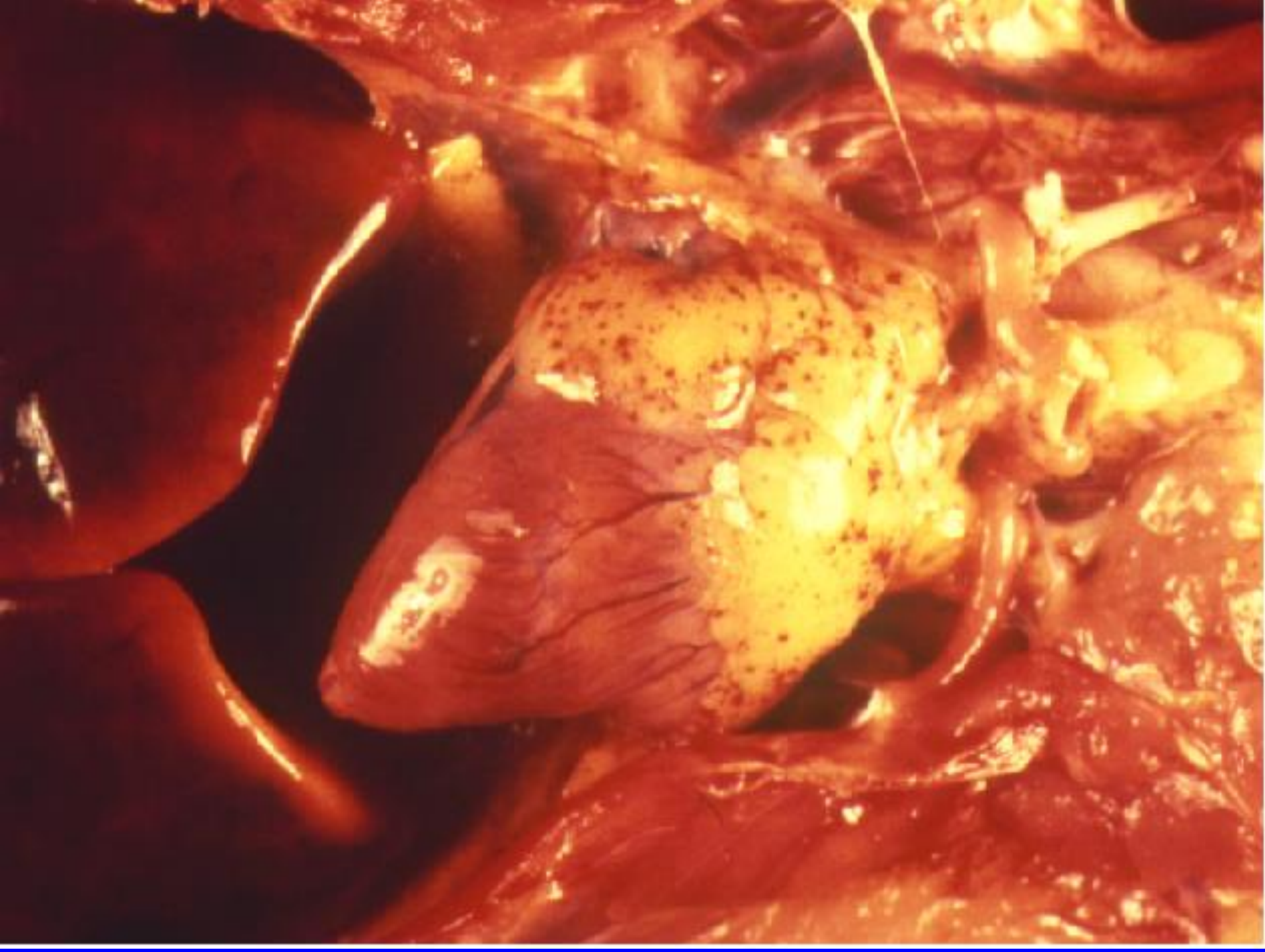






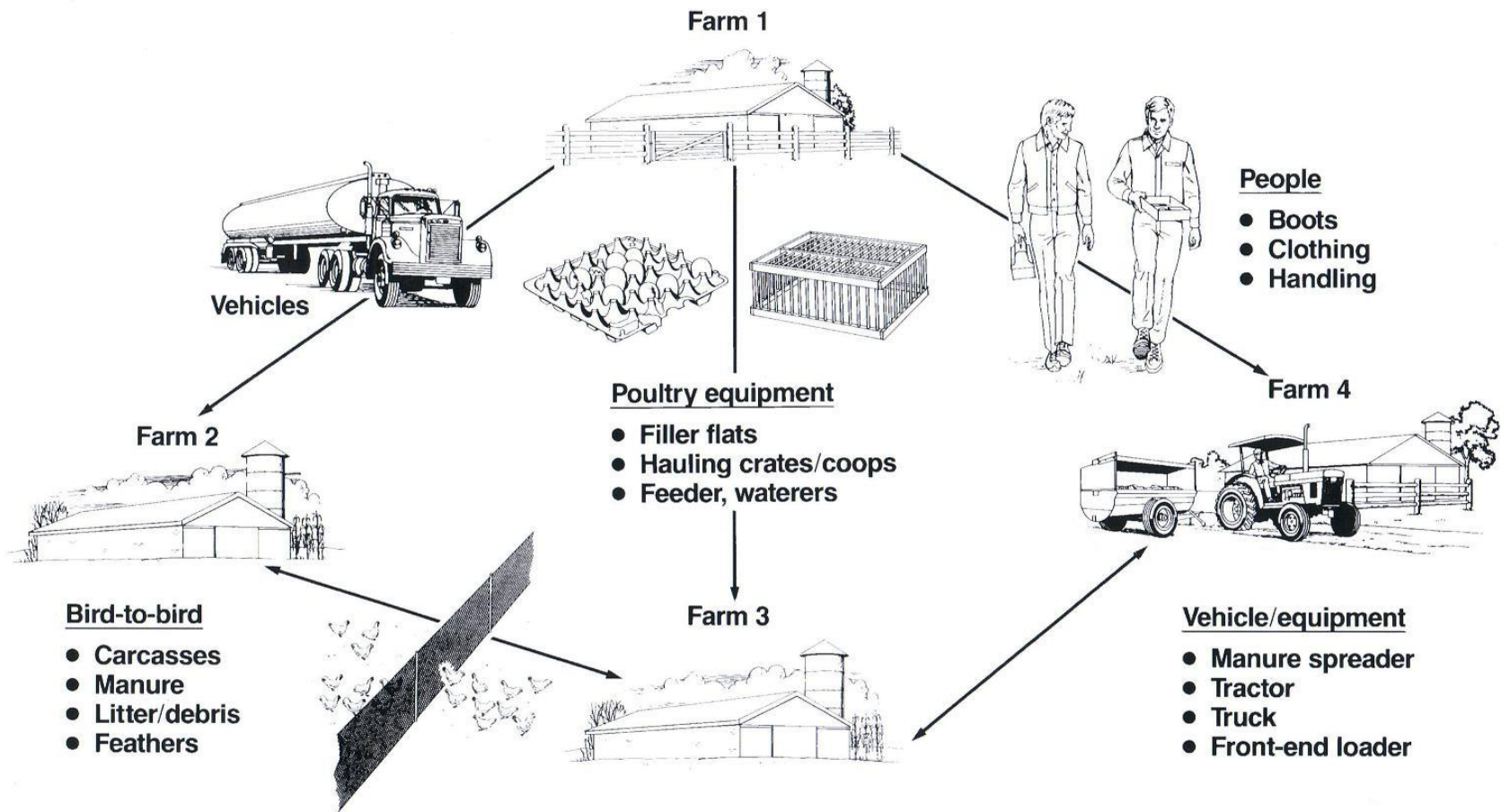








# How Poultry Disease Spreads





# SUMMARY

**No Human Component**  
(yet)

BUT – Still this is a Big Deal.

Maine is preparing! (more on that later today)



# BIG THANKS

- Maine's Influenza Working Group
- USDA Colleagues (VS & WS staff)
- UMaine Extension Service
- The inimitable Maine Compost Team!

LUCTOR et EMERGO