Mass Emergency Depopulation of Poultry

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• Why Depopulate?
• Depopulation Methods
• Basics of Foam
• Types of Foam Equipment
• Science Behind Foam
• Implementing Foam Depopulation
• Use of Foam in the Field
• Conclusions
“When HPAI outbreaks occur in poultry, the preferred eradication and control methods are quarantine, enforcement of movement restrictions, and depopulation (culling) of all infected, exposed, or potentially infected birds, with proper disposal of carcasses and rigorous cleaning and disinfection of farms and surveillance around affected flocks. ”

USDA APHIS VS EMD, 2007
• AIV and other infectious viruses significant threat
• 2003: Hong Kong
• 2003 – present: Asia
• 2006: England
  – 159,000 turkeys culled
• 2008: Germany
  – 1,400 geese, duck, chickens & turkeys culled
• Also in 2008
  – Russia, Egypt, Indonesia, Japan, Bangladesh

Image: UK Department of Environment, Food and Rural Affairs, 2007
• Closer to home, AIV remains a threat
  – Virginia 2007
  – West Virginia 2007
  – British Columbia 2008
  – Idaho 2008
  – Kentucky 2009

• Smaller scale incidents
• AIV spread through both direct and indirect contact

• Wild bird population serves as source and distribution mechanism (Melville, D.S., and K.F. Shortridge, 2006)

• AIV can survive approximately 72 hr on most of surfaces, but will die off most surfaces after 6 days. (Tiwari, et al., 2006)

• AIV can survive in freshwater
  – Salinity, pH and temperature influence
• All flocks will be tested for AI prior to slaughter
• Any and all flocks positive for H5/H7 will be humanely destroyed
• Two mile (3.2 km) control zone for testing
• Control zone (3.2 km) around the farm
  – Up to 50 farms
• Average 2.5 houses / farm = 125 houses
• 20% inactive houses = 100 houses
• 25,000 birds x 100 houses = 2,500,000 birds
• Current methods would require a minimum of 300 people to depopulate 100 houses in 48 hours.
**MASS EUTHANASIA**

Under unusual conditions, such as disease eradication and natural disasters, euthanasia options may be limited. In these situations, the most appropriate technique that minimizes human and animal health concerns must be used. These options include, but are not limited to, CO₂ and physical methods such as gunshot, penetrating captive bolt, and cervical dislocation.
Slow-death fear for poultry culls

New rules allowing chickens to be killed by slow suffocation in case of a widespread bird flu outbreak have been criticised by animal welfare groups.

Under a legal amendment passed on Monday, air supplies to poultry houses could be cut, leaving the birds to die.

The Department for Environment, Food and Rural Affairs stressed the method would be used as a last resort only.

But Compassion in World Farming said it could breach international welfare guidelines on minimising suffering.

Under the amendment to the Welfare of Animals (Slaughter and Killing) regulations 1995, authorised over the Bank Holiday weekend, the shutdown of ventilation system can be authorised as a method of culling in "exceptional circumstances".

BBC (2006)
Avian diseases get major attention, however, mass depopulation of surviving birds in structurally damaged houses is also a major issue.
• *Maximize* human safety
• *Minimize* disease spread
• *Minimize* animal welfare concerns
• Ensure compatibility with species, age, house and disposal options
• *Minimize* emotional impact
• *Match* skill of responders and resources available