Wild Pig Diseases: Current Issues and Potential Concerns

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Rudolph Virchow
Father of modern pathology
First used the term “zoonosis”
Strong advocate of “one medicine”

Tenet of population medicine:
Most new problems are introduced
Accidental vs. malicious
75% of emerging diseases in humans and animals are zoonotic
80% of emerging diseases involve wildlife

Disease Transmission
- Source
- Susceptible host
- Means of transmission
Source of the agent

- Diseased animals
- Offal & other waste
- Vectors / fomites / environment

REMEMBER: humans ARE animals!!!

Susceptible Host

- Emigration (natural)
- Importation (transportation)
- Stressors
  (Population density, weather, nutrition, other disease, etc)

Means of Transmission

- Direct contact
- Vectors / fomites / environment

Disease Impact

- Wildlife
- Public Health
- Agriculture/Environment
Zoonotic Diseases of Swine

- Actinobacillosis
- Anthrax
- Brucellosis
- Coccidiosis (Coccidia)
- Cryptosporidiosis
- E. coli – Scour (diarrhea)
- Encephalomyocarditis
- Erysipelas
- Japanese B Encephalitis Virus (JE)
- Leptospirosis
- Rabies
- Salmonellosis
- Streptococcal Infections & Meningitis
- Swine Influenza Virus (SI), Flu
- Swine Pox
- Tuberculosis
- Yersinia Infection

Leptospirosis

#1 zoonotic disease world-wide

Leptospira interrogans

Serovars (pomona, hardjo, icterohemorrhagica, bratislava, etc)

Urine, contaminated water & reproductive material and fluids

Domestic and wild animals
Carnivores, hooved stock, rodents

Leptospirosis

Mainly affect liver & kidney
Jaundice / icterus
Usually low morbidity / mortality
Flu-like signs (fever, aches, ADR)
can cause abortion / infertility
Incubation is several days to weeks
Mucous membrane contact

Brucellosis

Undulant fever, Malta Fever, Bang’s Dz

Brucella sp.
canis, suis, melitensis, abortus, ovis
(B melitensis not in USA)

Zoonotic / Reportable

Cattle, sheep, goats, pigs, horse, bison, reindeer, elk, camels, otters, dolphins, humans

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Brucellosis

- Animals
- Abortion / infertility
- Orchitis, spondylitis (vertebrae)
- STD !!
- Equine “fistulous withers”

Salmonellosis & E. coli

- Gram negative enteric (GI) bacteria
- Common food-borne pathogen
- Fecal-oral transmission
- Watery to bloody diarrhea (± fatal)

Trichinella

- Under-cooked pork
- Muscle
- Muscle pain

Cryptosporidia

- Mammals, reptiles, birds, fish
Pseudorabies (Aujesky’s Dz)
(Porcine Herpes Virus type 1)
- NOT zoonotic
  Other mammals (dogs, cats, cattle)
  “MAD ITCH”
- Reportable
  Interstate commerce

Foreign Animal Diseases

Vesicular diseases
- Foot and Mouth Disease
- Vesicular Exanthema
- Swine Vesicular Disease

“CALL THE FEDS ! ! !”

Foreign Animal Diseases

Swine Fevers
- Classical or Hog Cholera
- African Swine Fever

“CALL THE FEDS ! ! !”

INFLUENZA

- Multiple strains
  Great variation (H, N)
  Recombination / mutation
- Amplification host
- Spill-over to humans

www.fwi.co.uk/blogs/lincolnshire
- farming - blog/foot%20and%20mouth.jpg

www.fao.org/docrep/003/t0756e/T0756E122.jpg
www.fao.org/docrep/003/t0756e/T0756E05.htm

Recent Non-Scientific Telephone Poll

10 USDA-APHIS-Wildlife Services & National Wildlife Disease Program
Arkansas, Florida, Georgia, Indiana, Illinois, Louisiana, Mississippi, Maryland, Delaware, DC

**Does your state (region) have a feral swine problem?**

- Yes: 9
- No: 2

**Level of concern (scale of 1 – 10)?**

- Range: 5 - 8

**What’s being done?**

- Trap/slaughter, hunt, helicopter, education
- Public relations (information)

**Cooperators?**

- USDA-VS, state natural resource agencies, state animal health, private industry, public health

**Getting better? Same or worse?**

- All 9 = WORSE ! ! !

**What is needed?**

- Education, public relations, LEGISLATION
- STOP MOVING PIGS ! !

**Recommendations?**

- Awareness / define the problem(s)
- Recognize issues
  - environmental impacts
  - human & domestic animal health
  - land holders
- Disease surveillance
- Be aggressive ("pig SWAT teams")
- Develop regional strategies
- Demonstration sites
What to do?
Harvest only healthy animals
PPE: personal protective equipment
gloves, clean-up, offal disposal
Report unhealthy animals

What NOT to do?
Import/transport unhealthy animals
Harvest unhealthy animals
Concentrate animals (baiting)
Improper offal disposal

Consequences?
You saw the pictures
Know when to contact your health care professionals!
If in doubt, call someone (better safe than sorry!)

REMEMBER:

Not All Invasive Species are VERTEBRATES
Not all emerging diseases are FOREIGN
Introductions may be accidental, malicious, or intentional, but misguided

Are you at RISK??

Avian Flu hits Disney
Thanks for your attention!

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