Control and Elimination of Swine Diseases

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Disease Control and/or Elimination

• Causative agent discovery and elimination
  – Define etiology and characterize it
• Multisite Pig Production
  – Isolate young piglets from the adults at weaning
• Rapid response vaccines
  – Mutating viruses
  – New disease causing agents
Causative Agents

• Continual emergence of new agents or re-emergence of agents
• Characterize the agents
  – Diagnostics
  – Vaccines
  – Treatments
• Epidemiology
  – Control strategies
Multisite Pig Production

- Eliminate economically important diseases
- Used by traditional and integrated producers world-wide
  - Expand existing facilities
  - New sites
- Increases profitability from 3.7 to 10.4 Euro per pig (reduce COP $24 per pig)
- Used by over 60% of integrators in US
Rapid Response Vaccines

• Obtain gene sequence directly from the farm to prepare the vaccine
• Create vaccines within 4 weeks
• Never utilize live virus or bacteria
• Identical manufacturing process for each disease
• DIVA – Differentiate Infected from Vaccinated Animals
Obstacles

• Research funding for agent discovery
• Multisite
  – Location of facilities
  – All-in; All-out management
  – Biosecurity
• Rapid Response Vaccines
  – Regulatory approval
  – Intellectual property