Public Health Considerations Associated with the Industrial Food Animal Production Model

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Lecture Overview

- Industrial food animal production overview
- Antibiotics in animal agriculture case study
- Arsenical drugs case study
- Food animal production abroad
Section A

An Introduction to Industrial Food Animal Production
Section Overview

- What is industrial food animal production?
- Changes in farm structure and process
- Animal waste
- Threats to human health and the environment
- Challenges in IFAP research
AFOs, CAFOs, and IFAP

- EPA definition for animal feeding operation (AFO)
  - Animals stabled/confined and fed/maintained for 45 days per year
  - Crops, vegetation, forage not sustained in normal growing season over any portion of the lot or facility

- Concentrated animal feeding operation (CAFO)
  - >1,000 animal units = >1,000,000 pounds of live weight

- Industrial food animal production—characterized by ...
  - High throughput production methods
  - One site
  - Controlled conditions
  - Uniform consumer product
  - Small profit margins
Transformation of Food Animal Production

- Food animal production in the US has been transformed over the last 50 years

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Change in Hog Industry Structure 1959 - 2007

Localization of Production

- **1949**
  - Poultry processing plants
  - Each dot represents a plant processing 50,000 or more chickens each year

- **2007**
  - Chicken production
  - Each dot represents annual production of 1 million or more chickens

(Aho, 2003) (USDA, 2009)
Vertical Integration/Contract Production

- Structure extremely common (more than 90 percent) in poultry and swine industries (Martinez/USDA, 2002)

- Integrators
  - Own animals
  - Control inputs
  - Own processing plants

- Growers
  - Operate under contract
  - Own animal waste

- “Farmers”? 
# 2009-2010 Slaughter and Inventory Statistics for US Livestock

<table>
<thead>
<tr>
<th>Animal</th>
<th>Slaughtered per year</th>
<th>Inventory</th>
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<tbody>
<tr>
<td>Chickens</td>
<td>8,658,860,000</td>
<td>Not given</td>
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<tr>
<td>Hogs</td>
<td>113,733,800</td>
<td>64,400,000</td>
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<tr>
<td>Cattle &amp; calves</td>
<td>33,300,000</td>
<td>93,700,000</td>
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<tr>
<td>Sheep &amp; lambs</td>
<td>2,611,200</td>
<td>6,900,000</td>
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<tr>
<td>Turkeys</td>
<td>245,768,000</td>
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<tr>
<td>Total</td>
<td>9,054,273,000</td>
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Source: USDA 2010