Working Together to Safeguard Agriculture

NIAA Annual Conference
April 4th, 2017
“The greatest danger in times of turbulence is not the turbulence; it is to act with yesterday’s logic.”

-Peter Drucker
Our Window of Opportunity

Protein: #1 food segment by 2050

Food has never been more personal

Global connectivity around food and health growing

Animal Welfare and Sustainability important global trends

Animal Health Highly Attractive
3 Catalysts

- Elevate the Dialogue
- Stimulate Innovation
- Food Chain Influence
One Health

Healthy animals have a better life, are more sustainable, and are critical to healthy people and a healthy planet.
Today's Realities

1 in 3
Get the wrong nutrition

60%
Increase in demand

20%
Lost to disease

1.6 planets
Overusing natural resources

Healthy People

Healthy Animals

Healthy Planet

- Get the wrong nutrition
- Increase in demand
- Lost to disease
- Overusing natural resources
Healthy Animals
Under Constant Threat

3 in 4 cattle fight respiratory disease

1 in 4 cows face mastitis

1 in 3 pig herds experience ileitis

9 in 10 chickens exposed to coccidiosis

EXAMPLE: 2015 AVIAN INFLUENZA OUTBREAK
7.8 million turkeys (2%)
40 million hens (4%)

Healthy People & Healthy Environment


- **89,300 MT** of ready to cook turkey lost
- **46 million** Thanksgiving dinners
- **195 million** turkey sandwiches &
- **113 million** turkey burgers
  COMBINED!
- Per pound price increase
- **12.2 Billion eggs lost**
- **$0.42-$0.47** increased price per dozen
- **64,500 MT of chicken** = 2.2 billion servings of chicken soup

**AVIAN INFLUENZA**
Lost Resources

- **220,000** acres corn and soybeans
- **474 million** gallons = usage of 467,000 households

Eliminating Choice: A Case Study

What Consumers Want?

- 16M cage-free layers
- Retail policies drive need for 190M by 2025
- Conversion cost: 6B+
- Price difference: $0.90 vs $2.79
- Market glut, selling cage-free as conventional, breakers
Innovation is plentiful, rewarded and can meet consumer expectations.

Challenges:
• Can’t get ahead of science.
• Improving sustainability = improving efficiency. More protein. Not more animals.
**Responsible Use Requires Alternatives**

*OIE has identified 18 pathogens in swine and poultry with unmet alternative disease control needs.*

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### Poultry

<table>
<thead>
<tr>
<th>Key Syndrome</th>
<th>Primary pathogen(s) (disease)</th>
<th>Antibiotic Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Systemic Broilers</strong></td>
<td>Escherichia coli (Yolk sac infection, airsacculitis, cellulitis)</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>Infectious Bursal Disease virus (secondary bacterial infections)</td>
<td>Medium</td>
</tr>
<tr>
<td><strong>Systemic (Breeders, Layers)</strong></td>
<td>Escherichia coli (airsacculitis, cellulitis, salpingitis and peritonitis)</td>
<td>High</td>
</tr>
<tr>
<td><strong>Enteric (Broilers, Breeders, and Layers)</strong></td>
<td>Clostridium perstringens, type A (necrotic enteritis)</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>Coccidiosis (secondary bacterial infections)</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>Infectious Bronchitis Virus (secondary bacterial infections)</td>
<td>Medium</td>
</tr>
</tbody>
</table>

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### Swine

<table>
<thead>
<tr>
<th>Key syndrome</th>
<th>Primary pathogen(s) (disease)</th>
<th>Antibiotic Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Systemic (respiratory)</strong></td>
<td>Streptococcus suis</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>Haemophilus parasuis</td>
<td>Medium</td>
</tr>
<tr>
<td><strong>Respiratory</strong></td>
<td>Pasteurella multocida <em>(for pneumonic disease)</em></td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>Mycoplasma hyopneumoniae</td>
<td>High</td>
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<tr>
<td></td>
<td>Actinobacilus pleuropneumoniae</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>Porcine Reproductive and Respiratory Sydrome virus <em>(secondary bacterial infections)</em></td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>Swine Influenza Virus <em>(secondary bacterial infections)</em></td>
<td>High</td>
</tr>
<tr>
<td><strong>Enteric – neonatal</strong></td>
<td>Escherichia coli</td>
<td>High for the syndrome, Low for E. Coli</td>
</tr>
<tr>
<td><strong>Enteric (weaners/finishers)</strong></td>
<td>Escherichia coli, Lawsonia intracellularis, Brachyspira spp B. hyodysenteriae, B.pilosicoli</td>
<td>High, Medium-High</td>
</tr>
<tr>
<td></td>
<td>Rotaviruses <em>(secondary bacterial infections)</em></td>
<td>High</td>
</tr>
</tbody>
</table>
Global Dairy

Need For Innovation: Improving Sustainable Production

Source: FAOSTAT, accessed 9JUL14
We Must Stop Meeting Increased Demand By Adding Animals!

Drive Food Chain Influence

We can meet protein demand while giving consumers what they want.

Challenge:
• Who’s really driving the change?
• Positively Position. Change the trend.
Understanding What the Consumer Wants

Then vs Now

- Headlines → Media mentions
- Aided questions → Unaided questions
- Call inquiries → Consumer spending
Our History

• Accelerating negative claims
• Stalling efficiency & sustainability
• Jeopardizing welfare
• Eroding consumer confidence and trust

Need
1. Innovate for the future
2. Influence food chain stakeholders
3. Long-term view vs short-term differentiation
Broilers Raised Without Antibiotics

Entire Industry Shifts

Premiums Drop

Mortality is trending up

Consumers Never Asked For It

[Graphs and charts showing trends and data related to broiler production, antibiotic usage, and consumer opinions.]
Driving Positive Consumer Experience

Make YES the new NO

- More protein
- Better animal care
- More sustainable
- More economical
Conclusions

Elevate the Dialogue
Positive platform brings more credibility, connections.

Innovation
Innovation is the sustainable solution. Not more animals.

Influence
Food chain, not consumers driving change. Changes must be sustainable.
One Health

Healthy animals have a better life, are more sustainable, and are critical to healthy people and a healthy planet.