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U.S Department of Agriculture

Agricultural Outlook Forum 2002

February 21 & 22, 2002

**MEETING CONSUMERS' EXPECTATIONS FOR QUALITY AND
SAFETY OF PORK PRODUCTS**

Richard J.M. Poulson
Executive Vice President and General Council
Smithfield Foods, Inc.
And
Terry Coffey
President
Murphy Farms, LLC

Dr. M. Terry Coffey

President

Murphy Farms LLC

Rose Hill, North Carolina

Dr. Terry Coffey received his B.S. in Agriculture in 1975, M.S. in Animal Science in 1977, and Ph.D. in Animal Nutrition in 1981 from the University of Georgia. After graduation, he joined the faculty of the University of Florida's Department of Animal Science where he conducted research in swine nutrition and taught courses in basic nutrition and swine production management. He also developed a course titled "Microcomputers in Agriculture." In 1982 and 1983, he was chosen as the Animal Science Department's Outstanding Teacher.

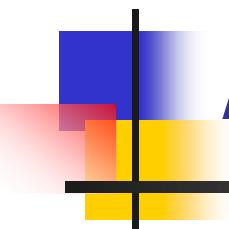
In 1984, Dr. Coffey moved to North Carolina State University where he developed a program focused on extension and research in swine nutrition and management. He also taught swine management and served as an advisor to the Animal Science Club. Dr. Coffey developed successful extension and research programs in swine nutrition and received national recognition as an industry leader when he was named one of *Hogs Today* magazine's "Pacesetters for the '90's." In 1990, he was appointed Associate Department Head, Extension Specialist-in-Charge of the Animal Science Department at North Carolina State University. He also maintained an active program of graduate education and a distinguished record of professional service on numerous state, regional and national committees that provided leadership for academic and swine organizations.

Strengthening an innovative program of research and development at Murphy Family Farms, Dr. Coffey joined the staff as its Director of Research and Development in September, 1991. Dr. Coffey oversaw the development of in-house laboratory capabilities that are integral to ingredient matrix values in feed. He also directed the company's other progressive internal and external research and development programs.

In early 1994, Dr. Coffey became Murphy Family Farms' Vice President, Production Operations; in 1997 was appointed Senior Vice President, Production Operations; and in January 2001, Dr. Coffey was named President of Murphy Farms LLC.

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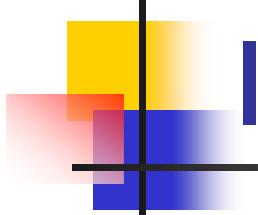


Meeting Consumers' Expectations For Quality And Safety of Pork Products

M. Terry Coffey

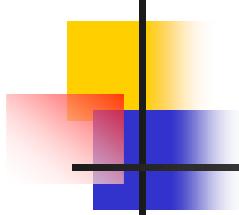
President

Murphy Farms LLC



Consumers'/Meat Industry Major Issues

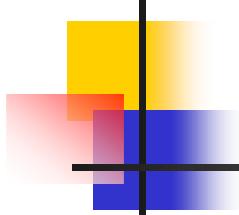
- Environment
- Animal rights
- Food safety/Meat quality



Evolution of Production

- **Pig Producer** - diversified farming operation - *“pork production alternative market for grain”*
- **Meat Producer** - industrial model - *“efficient, least cost production of lean meat”*
- **Vertically Integrated Food Producer** - consumer driven - *“cost and quality controlled production of food made from pork”*

Dennis DiPietre, Reflections on
the role of knowledge in the 21st
century pork industry, 1998



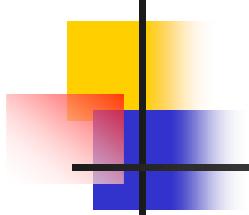
Consumer Driven Focus?

Meat Producer

- Process management

Vertically Integrated Food Producer

- Product quality
- Social climate
- Environmental climate
- Customer responsiveness



Vertical Integration of the U.S. Swine Industry Trade

Smithfield Foods

Premium Standard Farms

Seaboard Farms

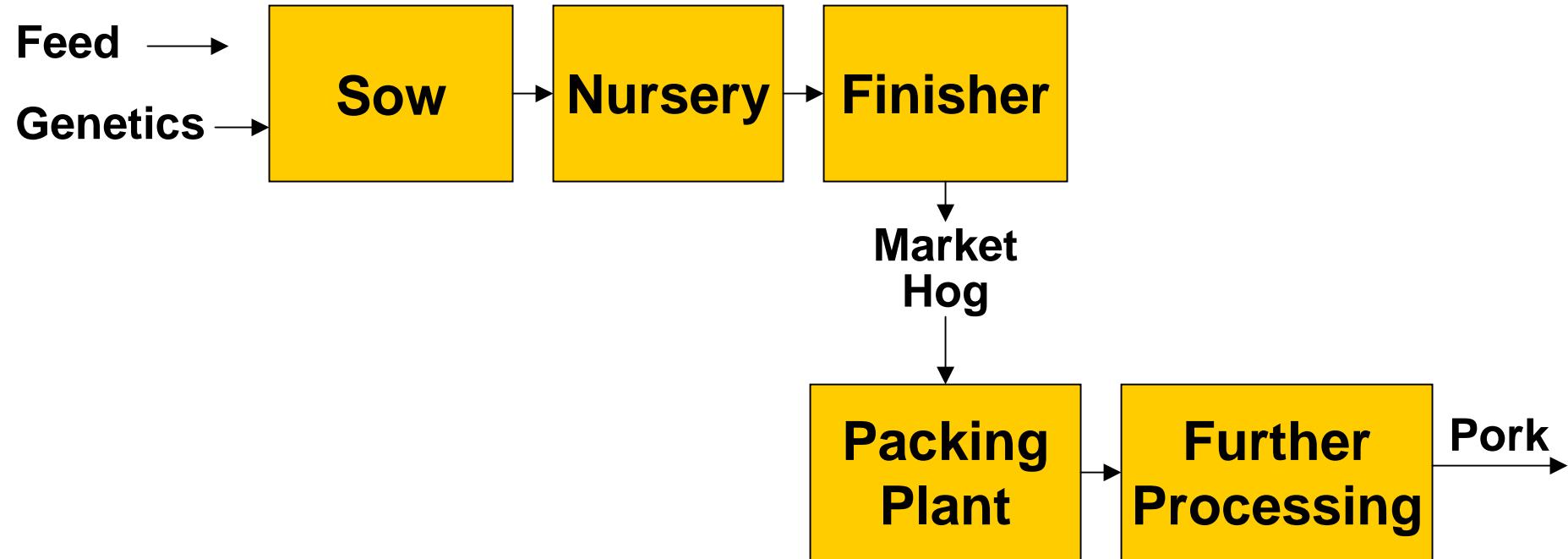
Cargill

Farmland Industries

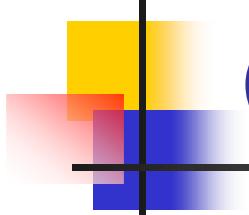
Clougherty Packing Company

- Total # sows $\geq 1,800,000$
- 30% of US industry

Integrated Production Process



Each component uses specialized feeding, housing, environmental control, health care, animal care, hygiene, and management systems.



Smithfield Foods

Contract Production

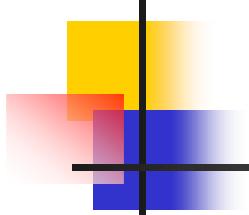
Capacity, %

| | |
|-----|----|
| Sow | 50 |
|-----|----|

| | |
|---------|----|
| Nursery | 75 |
|---------|----|

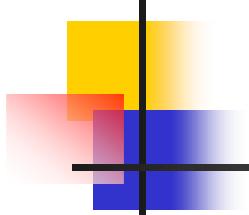
| | |
|-----------|----|
| Finishing | 75 |
|-----------|----|

Represents 1,300 independent family farms



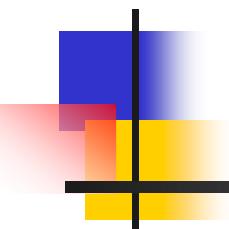
Key Technologies and Capabilities

- **Genetics** Smithfield advantage
- **Nutrition** 60% - 70% of cost
- **Feed manufacturing** Nine mills, five states
- **Housing systems** Three-site production
- **Health management** Prevention, all-in/all-out

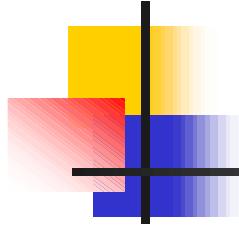


Key Technologies and Capabilities

- **Reproductive biology** Real-time ultrasound,
100% AI
- **Meat science/
Muscle biology** Food safety/meat quality
- **Environmental
management** ISO 14001
- **Integrated system
management** Data to monitor and
improve, tracking systems

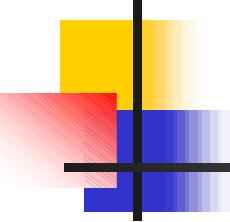


Environment



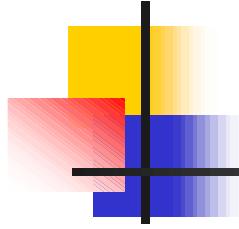
Definition of an EMS

“The part of overall **management system** that includes organization structure, planning activities, responsibilities, practices, procedures, processes and resources **for** developing, implementing, achieving, reviewing and maintaining **the environmental policy.**”



What Does ISO 14001 Mean?

- International Organization for Standardization - a worldwide federation of national standards bodies. Based in Geneva, Switzerland.
- Certification/registration under ISO 14001 Standard is used by our organization to assure ourselves and others that an appropriate EMS is in place.

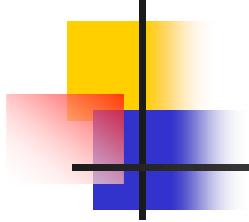


ISO 14001 Requirements

17 specific elements that must be met in accordance with the ISO 14001 Standard.

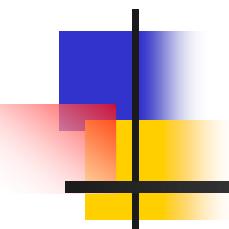
Conformance with these requirements and verification by an independent, accredited third party auditor is required in order to become "**ISO 14001 Certified**".



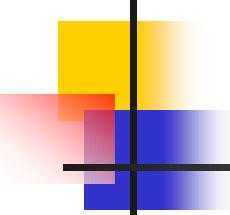


Smithfield Foods:

The first ag business to
achieve ISO 14001 status

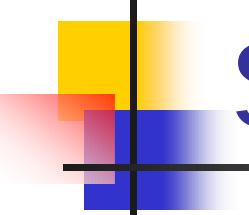


Animal Welfare



Customer Confidence of Welfare Practices

- How does one build the trust and support of customers?
 - Loyalty
 - Confidence
 - Security
 - Integrity
- Audits - third party verification
 - USDA Process Verification, ISO, vendors
- Professional image & industry promotion



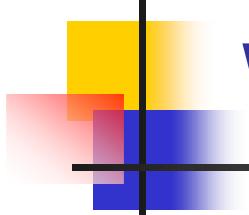
Smithfield Actions

- Smithfield customer feedback
- Murphy-Brown Animal Welfare Team
 - Corporate policy defined
 - Welfare criteria defined and monitored
- Tours and audits
- Training, training, training
- Update all production manuals



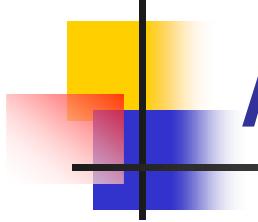
Animal Welfare Policy

The health and welfare of our animals are primary concerns for Murphy-Brown. In order to produce high-quality pork, the animals in our system will be housed in facilities designed to provide an environment consistent with their physiological needs for excellent health and productivity. We will provide constant supervision of our animals' welfare and provide high-quality feeds to meet all nutritional requirements. We will comply with all laws and regulations applicable to the animals' health and welfare and will strive to enhance our animals' well being and value.



Welfare Criteria

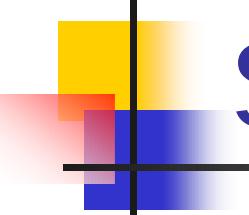
- Food and water
- Environment (shelter)
- Lighting
- Pens and stalls (space)
- Temperature control
- Air quality
- Training
- Transport
- Slaughter practices



Animal Welfare

- High productivity, few behavioral problems, and a lack of physiological stress response are possible in most systems if **stockmanship** was high and environment well managed.

McGlone et al., 1999

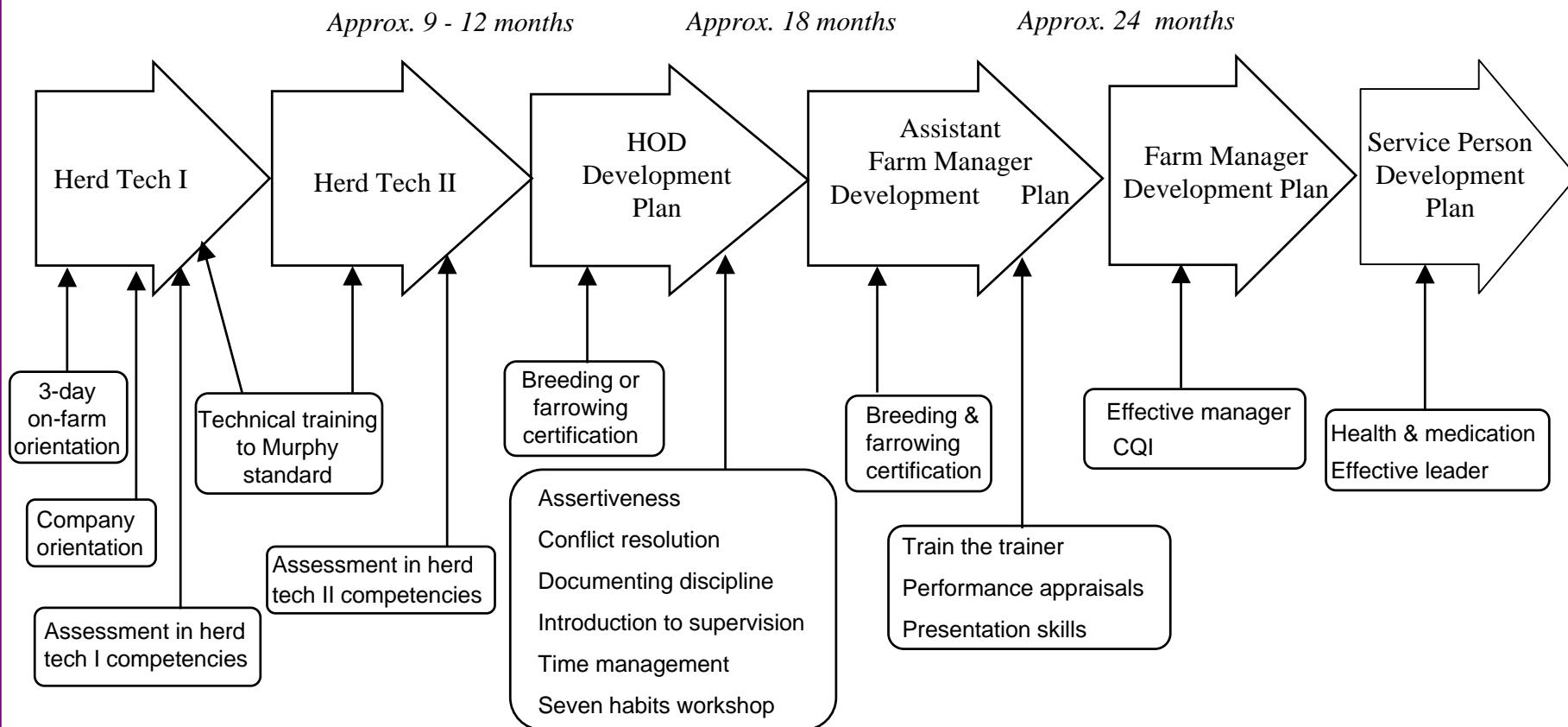


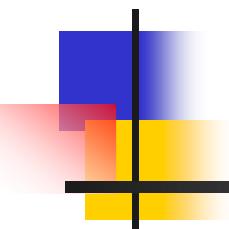
Efforts to Improve Stockmanship on Farms

- Incorporate stockmanship and animal welfare topics into all classroom training sessions
- Group of farms conducting a research trial to improve interaction between employees and animals
- All new employees view animal handling video at sign-up

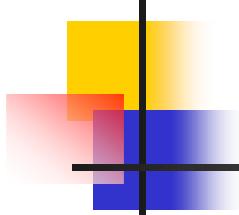
CAREER PATH DEVELOPMENT-SOW FARM EMPLOYEE

Production Manager Trainee Development Program



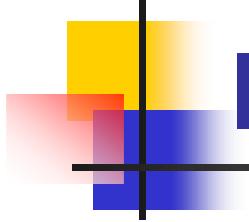


Food Safety/Meat Quality



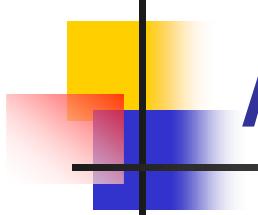
What Is Quality?

- Food safety - absolutely
- Consumer defined/multiple choices
 - Color - white meat or red meat?
 - Marbling - heart healthy or flavor?
 - Fat quality - saturated or unsaturated?
 - Fat color - pure white or yellow tint?
 - Drip loss - pumped or natural?



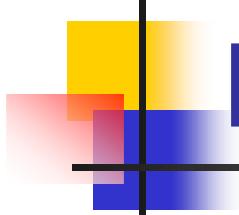
To Deliver Quality and Uniformity Integrated Systems Standardize:

- Genetics
- Nutrition
- Product handling



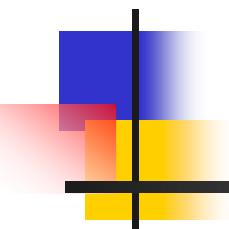
Food Safety - Residue Avoidance/Antibiotic Use

- Certification of management practices through NPPC pork quality assurance
- Adhere to FDA's Animal Medicinal Drug Usage Clarification Act requirements
- Feed manufacturing
 - No sulfa products
 - No routine administration of antibiotics used in human medicine to healthy animals

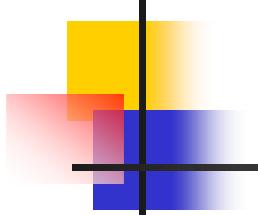


Meat Quality - Product Handling

- Define standards and certify processes
 - Loading
 - Transportation - procurement radius
 - Unloading
 - Cooling
 - Resting
 - Stunning
 - Quick chill

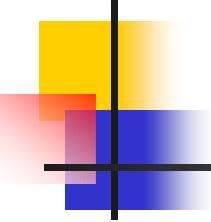


Summary

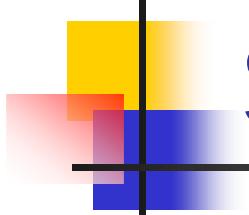


Attributes of Robust Systems

- Leadership - driven and passionate
- Industries best people
- Realistic - recognize problems
- Singular obsession to be world's best
- A culture of discipline
- Technology accelerators
- Steady, focused progress

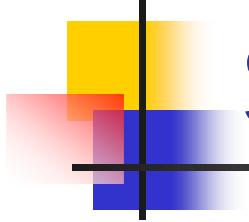


Vertically integrated systems
are best suited to deliver these
attributes across the pork chain.



Smithfield Foods Advantages

- Through our vertical integration model, we are able to do the following:
 - Deliver the safety, quality, and consistency demanded by today's consumer while maintaining the highest level of animal welfare available today



Smithfield Foods Advantages

- Utilize feedback links to focus on continuous system and product improvements
- Supply a significant portion of the pork produced in the U.S.
(12 million of 100 million animals annually)