Pork Industry is very different than it was 40 years ago.
Remember the good old’ days

Swine Statistics

- US produces - 63,000,000 pigs
- US Sows - 6,000,000 sows
- China - 400-500,000,000 pigs
- China - 46 million sows
- China - 56% of all pigs in world
- Export - 25%
- Pork - #1 meat in the world
Hog Inventory 1940 to 2010

Pork Meat of Choice Worldwide
- Global meat consumption:
  - 40 percent pork
  - 29 percent chicken
  - 24 percent beef
  - 7 percent other

USDA Foreign Agricultural Service, 2008

Economics Dictate That Farms Must Get Bigger To Be Efficient AND Profitable

Business Structures
- Traditional - independent family farmer
  - Typically grows own grain for feed
- Contractor - owns sows and pig
- Contract producer - family farmer
  - Family farmer supplies building and labor
  - Farmer receives the manure for fertilizer
  - Farmer has no production or financial risk

MODERN SWINE OPERATION
2400 Sow Units (Multi-Site Production)
- This System will Produce 1000 Pigs per Week
  - 13 – 2,000 head Wean-Finish Buildings
  - Farrowing-Baby Pigs

10,000 Sow Model (Multi-Site Production)
- This System will Produce 4000 Pigs per Week
  - 26 – 4,000 head Wean-Finish Buildings
  - On multiple sites
Pigs are moved from the nursery to a finishing barn. Many farms skip the nursery and move directly to a wean to finish barn.

Today - pigs in a wean to finish barn
CAFO RULES

- All manure structures must be designed by an engineer
- Must test all manure for nutrient values
- Must test soils and apply manure at agronomic rates
- Must apply manure so there is no runoff or discharges to any body of water.

Manure Value of 4000 pigs

- Quad barn will produce 1.2 million gallons as a wean to finish barn
- Will provide complete fertilizer value for 250 Acres of corn
- Fertilizer value in 2008 of $400/A
- $100,000 of fertilizer per barn
Today’s Swine Veterinarian

- Regular herd visits-monthly
- Monitors herd health by
  - Visual inspection of animals and facilities
  - Look for abnormal behavior
  - Signs of sickness; runny eyes, diarrhea, coughing
- Necropsies of mortalities
- Routine serology and testing
- Reviews records and herd performance
Today’s Swine Veterinarian

- Provides advice on:
  - Disease prevention and vaccinations
  - Bio-security
  - Production management decisions
  - Genetics and nutrition
  - Employee training and PQA+

Diagnosing Diseases of Pigs

Population Medicine

- Pigs are raised in large groups, so swine medicine is focused less on individual animals and more on populations
- Swine veterinarians focus on disease prevention and management

Diseases in Pigs

- Pigs are observed in groups for common clinical signs of disease such as:
  - Respiratory signs
    - Coughing or thumping
    - Sneezing runny eyes
  - Reproductive signs
    - Abortion
    - Low conception rate
  - General signs
    - Off feed/gaunt
    - Poor weight gain
    - Rough hair coat
  - Diarrhea
  - Neurologic signs

Things to ask in a disease outbreak

- History:
  - How many are sick?
  - When/how did it start?
  - Prior health status etc.
- What disease is it?
  - Clinical signs
  - Draw blood
  - Necropsy
  - How do we treat/prevent it?

Bleeding Pigs

- If a disease problem is suspected, blood can be drawn from a sample of pigs and submitted to the lab for disease diagnosis
- Blood can also be submitted from healthy pigs for routine disease surveillance within a farm
- PCR tests can also be run on saliva
Necropsy
- Examining pigs after they have died to determine a cause of death or the presence of a disease
- The pig’s already dead…why do we care?

Which pig do you chose?
- Freshly dead
- Acutely affected
- Rough looking pigs
- Showing similar signs as others
- Why?

The Necropsy
- Cut open the pig to observe the organs and look for lesions from disease
- Need to know the normal anatomy and appearance of organs to know if there are abnormalities present

Lungs
- Normal Lung
- Diseased Lung

Liver
- Normal
- Diseased

Intestines
- Normal
- Diseased
Other major organs

From left: lungs and heart with liver. Upper right: spleen. Lower right: kidney.

Samples

- Tissue is taken from these organs and submitted to a veterinary diagnostic lab for:
  - Histopathology
  - Virus isolation
  - Bacteriology

Results

- Results... what do we do with them?
  - Treatment
  - Prevention
    - Vaccinations
    - Management changes
  - Determine where the disease came from and how to eliminate the source

= Healthy Pigs!

Vaccinations

- Pigs
  - Mycoplasma
  - Circovirus
  - Flu?, PRRS??
- Sows
  - E. coli, C. perfringens, Rotavirus
  - Lepto, Parvovirus
  - Flu, Mycoplasma?
  - PRRS?
  - Feedback and exposure

Records

- Look for targets and goals
- Look for trends and changes
- Sow
  - P/s/y, Farrowing rate, reproductive #’s
  - BL, TB, SB, Mum
  - PWM, Weaning numbers
- Finishers
  - FE, ADG, ADFI, Days to market
  - Death loss %, Culls and lites
**Action**

- Can you assign an economic figure to the change?
  - Ex. FE has increased from 2.5 to 2.75
  - At $280/T feed on 10000 pigs
  - Lbs feed/lb gain = .25
  - Lbs feed = .25 X 2600000 = 650000 lbs feed
  - 325 T X $280 = $91000
  - $9.10/pig

**Cost of Production**

- A 1200 sow unit that produces 27000 pigs/yr has an annual cost of $920,000.
- What is his cost of production (cost/pig)?
- If they can get 26 p/s/y how much will this lower their COP?
- At $40 weaned pig price, how much more income will a 1200 sow farm generate?

**What do you do with the numbers?**

- Environment—heat, drafts, too damp
- Management
- Nutritional—change of ingredients, molds
- Disease?
  - Vaccinations
  - Antibiotic protocols
- Employee issues
- Genetic issues—hernias, aggression (flank and tail biting), FE, ADG, %Lean