

Introduction to Swine Production



Pictures from martinlittle.com:gallery

Objectives

- Know the purposes of pigs
- How to differentiate breeds
- Learn the swine production cycle
- Be able to name major diseases/issues facing the swine industry today

The Basics

- Scientific Name
 - *Sus domesticus*
 - Porcine
- Classifications
 - Boar
 - Sow
 - Gilt
 - Barrow



Picture from McDonnell & Co.
International

More of the Basics

- Major producers worldwide
 - China, US, Brazil, Germany
- 61.2 million hogs in the United States as of Dec. 05
 - IA has the most with 14.4 million hogs
 - NC, MN, IL, MO, OK

Purpose

- 31.2 lbs per capita in the US in 2001
- 1.87 billion pounds in Jan 06 alone



Picture from www.zenreich.com

What make a good carcass?

- Trimness
- Muscling
- Quality



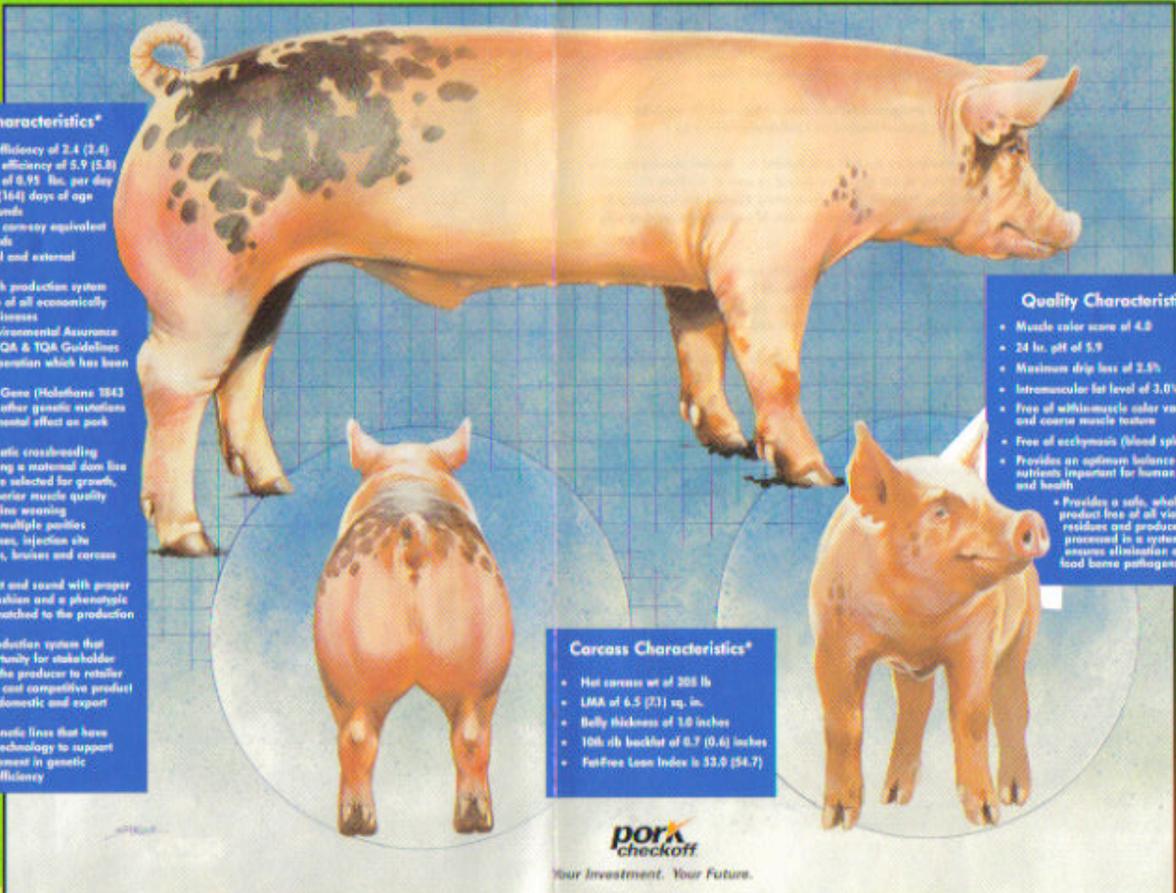
Picture from Manitoba Hog and Poultry Days

What makes a good market hog?

SYMBOL III • A Standard of Excellence

To make U.S. Pork the Consumer's Meat of Choice.

SYMBOL III is an ideal market hog that symbolizes profitability for every segment of the industry. This hog has correctness of structure, production, performance, function, livability, attitude, health, optimum lean yield, and produces the best quality, safest pork that provides the optimum nutrients for human nutrition.



- Production Characteristics***
- Live-weight feed efficiency of 2.4 (2.4)
 - Fatless lean gain efficiency of 5.9 (5.8)
 - Fatless lean gain of 0.95 lbs. per day
 - Marketed at 156 (164) days of age
 - Weighing 270 pounds
 - All achieved on a corn-soy equivalent diet from 60 pounds
 - Free of all internal and external parasites
 - From a high health production system
 - Immune to or free of all economically important swine diseases
 - Produced with Environmental Assurance
 - Produced under FDA & USDA Guidelines
 - Produced in an operation which has been SWAP approved
 - Free of the Stress Gene (Holoheine 1842 mutation) and all other genetic mutations that have a detrimental effect on pork quality
 - Result of a systematic crossbreeding system, emphasizing a maternal dam line and a terminal sire selected for growth, efficiency and superior muscle quality
 - From a maternal line weaning >25 pigs/yr after multiple parturitions
 - Free of all abscesses, injection site abscesses, arthritis, bruises and carcass taint
 - Structurally correct and sound with proper angulation and cushion and a phenotypic design perfectly matched to the production environment
 - Produced in a production system that ensures the opportunity for multigenerational profitability from the producer to retailer while providing a cost competitive product retail price in all domestic and export markets
 - Produced from genetic lines that have utilized genomic technology to support maximum improvement in genetic profitability and efficiency

- Quality Characteristics**
- Muscle color score of 4.8
 - 24 hr. pH of 5.9
 - Maximum drip loss of 2.9%
 - Intramuscular fat level of 3.0%
 - Free of white muscle color variation and coarse muscle texture
 - Free of ecchymosis (blood splash)
 - Provides an optimum balance of nutrients important for human nutrition and health
 - Provides a safe, wholesome product free of all violative residues and produced and processed in a system that ensures allocation of all food bones pathogens

- Carcass Characteristics***
- Hot carcass wt of 305 lb
 - LMA of 6.5 (7.1) sq. in.
 - Belly thickness of 3.0 inches
 - 10th rib backfat of 6.7 (6.6) inches
 - Fat-Free Lean Index is 33.0 (34.7)

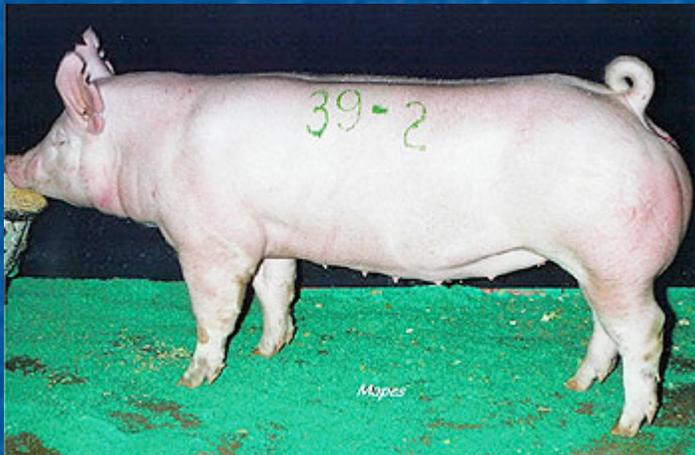
*NOTE: all numbers in parentheses represent gilt numbers corresponding to the barrow numbers shown



Your Investment. Your Future.

Breeds of Hogs

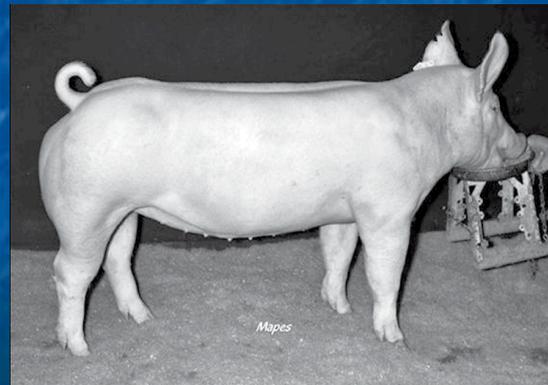
- White vs. dark breeds



- Maternal vs. Terminal breeds

Breed Identifiers

- Color
 - Watch for "points"
- Head
 - Ears



Pictures from: Conover Show Pigs, Eddie Farms, Olson Spot Farm, Stephens Farm

Stages of Production

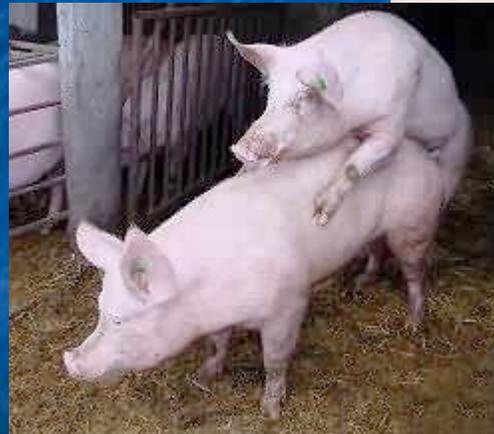
- Breeding
- Gestation
- Farrowing
- Weaning
- Feeder/Market Hog
or
- Replacement



Picture from Comfortable Quarters for pigs in Research Institutions

Breeding Season

- May occur at any time of the year
- Natural vs. AI
 - More common method?
- Estrous Cycle
 - 21 days



Breeding Management

- Flushing
 - Feeding the sows/gilts more before breeding to increase the number of eggs ovulated
- Estrus Synchronization
 - Giving hormones to induce estrus
- Heat Detection
 - Very important!!!!
 - What are some signs of heat?

Gestation

- 112-115 days (3 mo, 3 wks, 3 days)
- Feed sow/gilts enough to maintain weight and BF
(4-5#/day 1 & 2 trimester
5-7#/day 3rd trimester)



Farrowing

- Farrowing crates
- Litter size ~ 8-15 piglets
- Birth Weight ~ 2-3 lbs
- Grafting may be done if necessary
- Sows will need to be fed more ~ 14-20#



Newborn Processing

- Identification
 - Ear notches
- Clip needle teeth
- Dock tail
- Give shots
 - Iron



Picture from: Purdue Pork Page

Weaning

- SEW System
 - Segregated Early Weaning
 - Wean pigs less than 21 days old
 - Why?
- They will usually be moved to a nursery



Feeder/Market Hogs

- Feeder pig
 - Weight ~ 50 lbs
- Market hog
 - Weight ~ 250 lbs
- Not a seasonal market



Replacement Gilts

- Identify culls due to problems
 - Structure
 - EPDs
 - Underlines bad
- Breed gilts at 5-6 mo of age



Picture from Waldo Farms

Other Management Practices

- Vaccinations
- Biosecurity
 - All-in-all-out

Issues in the Swine Industry

Disease

- PRRS (porcine reproductive and respiratory syndrome)
 - Causes abortions, mummified fetuses, stillborns
 - No treatment but can vaccinate
 - Can cause major losses in herd population and in income



Picture from avma.org

Manure Management

- Will always be a big problem for hog producers
- Causes problems with neighbors
- No real fix for this problem



Picture from Penn State Sustainable Ag Working Group

Animal Right Laws

- Laws may be passed regulating
 - Gestation stalls
 - Farrowing crates



- These things will alter the way that we produce hogs and will have a significant affect

Questions???



Photo from ADM