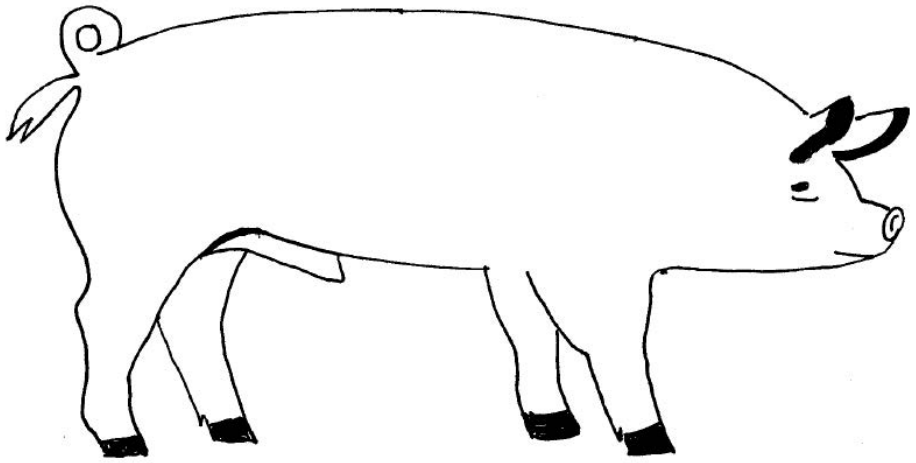
Osceola County 4-H

Market Hog

ACTIVITY REFERENCE BOOK

2020-2021



UF | IFAS Extension
UNIVERSITY of FLORIDA

	BEEF CATTLE	SWINE	SHEEP
INTACT MALE	BULL	BOAR	RAM
MALE CASTRATED PRIOR TO DEVELOPMENT OF SECONDARY SEXUAL CHARACTERISTICS	STEER	BARROW	WETHER
MALE CASTRATED AFTER DEVELOPMENT OF SECONDARY SEXUAL CHARACTERISTICS	STAG	STAG	STAG
FEMALE THAT HAS PRODUCED PROGENY	COW	SOW	EWE
YOUNG FEMALE WITH NO PROGENY	HEIFER	GILT	EWE
VERY YOUNG PROGENY	CALF	PIG	LAMB

HOG SKILL-A-THON

Introduction

This manual is provided as a ***study guide*** for the skill-a-thon competition and should be used as an additional aid to ongoing educational programs. Sections are labeled **Junior, Intermediate & Senior, & Bonus** to help exhibitors and educators identify which materials are required for their age level. The topic for this year's Skill-a-thon is **cuts of meat and animal by-products.**

Topics for the Knowledge and Skills Stations may include the following:

Juniors (age 8-10 as of September 1, 2020)

Body parts
Breeds *
Structure
Cuts of Meat
Animal By-Products
Common Livestock Terms

Intermediates (age 11-13 as of September 1, 2020)

All of the above plus...
Parts of a Feed Label
Basic Livestock Terms

Seniors (age 14 and over as of September 1, 2020)

All of the above plus....
Retail Cuts of Meat

Bonus
Knots

The contest will be held on **January 27, 2021, from 2:00 p.m. until 6:00 p.m. in the KVLS Arena**

KVLS Skill-a-thon Rules for 2020-2021

1. **All market exhibitors must take the Skill-a-thon in their project area for the animal that they are showing in order to participate in the market programs,** i.e. steer exhibitors must take the Steer Skill-a-thon. Any exhibitor who does not meet the required grade average on their report card or who does not have a report card must score 70% on the Skill-a-thon to participate in the Market Animal Program.

2. All exhibitors must take the Skill-a-thon for the first time on their own, then a reader can be requested the second time, if a passing grade is not achieved.

3. Awards will be given on the score of the first Skill-a-thon taken. Top awards are only given for passing scores (70% or above).

4. Only those exhibitors who do not make the grade point requirement are required to make a passing score of 70% or above in order to participate in the market animal program.

5. Exhibitors must stay in the testing room once they have signed up to take the Skill-a-thon.

6. Exhibitors showing a second animal must stay in the testing room to take the second animal Skill-a-thon.

7. No parents or other adults not on the Committee are allowed in the Skill-a-thon room.

8. No exhibitors are allowed to have cell phones while in the Skill-a-thon room.

9. No time limit will be imposed on the exhibitors.

10. Skill-a-thon handbooks will be given at the project start-up Mandatory Meetings.

KVLS Awards

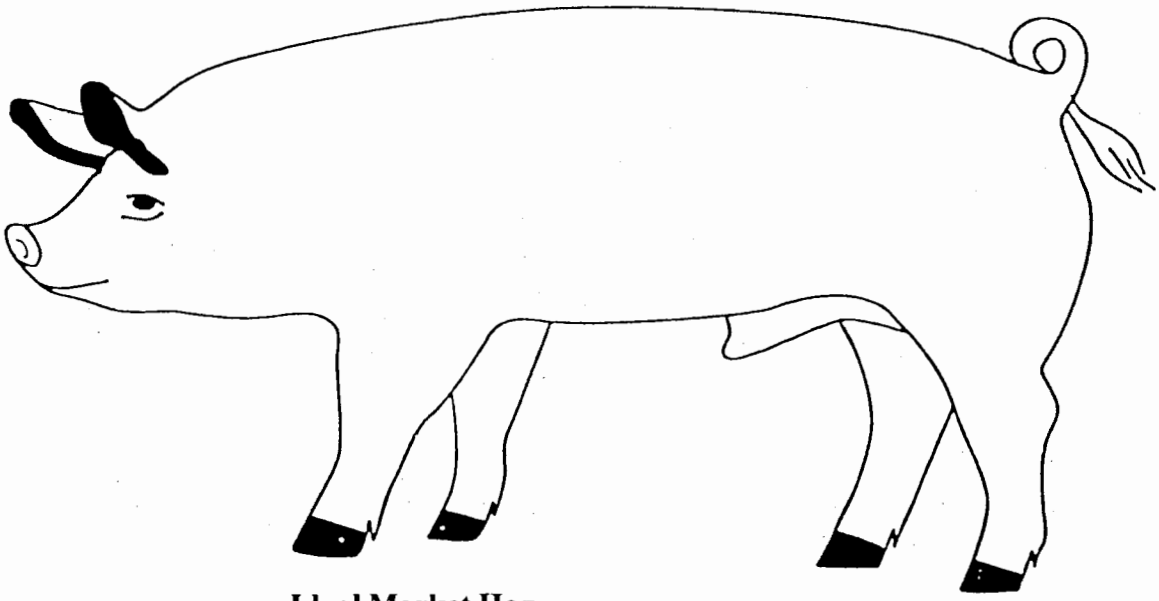
There will be a Junior (8-10), Intermediate (11-13), Senior (14 - graduate from High School) division for the contest. Within each division, 1st, 2nd and 3rd place will receive rosette ribbons and a monetary award.

The Ideal Market Hog

SYMBOL III* is a Standard of Excellence for the pork industry, developed by the National Pork Board. The standards include production guidelines, carcass characteristics, carcass quality characteristics and a picture of the ideal market hog. The SYMBOL III picture of the ideal market hog illustrates what a market hog should look like. From this picture, we can see that the ideal market hog should have a long muscular body, with good physical structure.

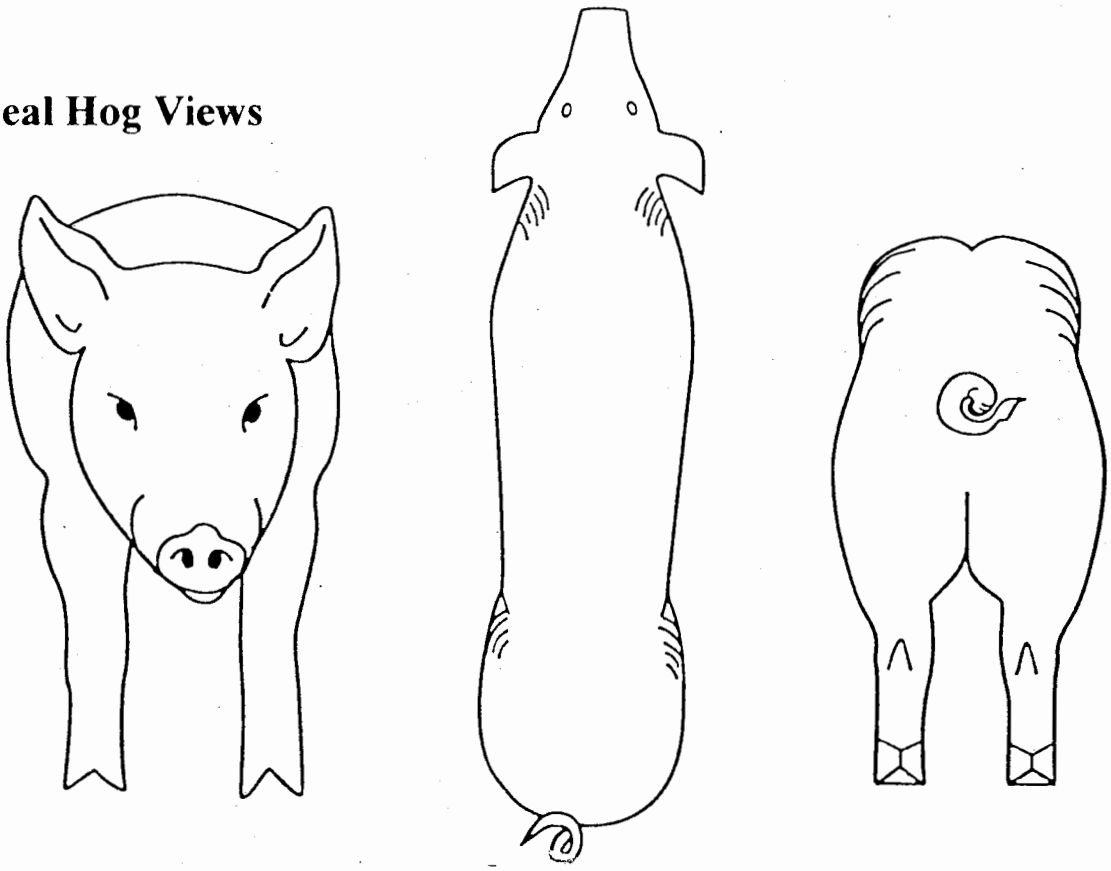
Ideally, this hog should be able to produce one pound of live weightwith 2.4 pounds of feed and should produce a carcass with 6.5 squareinches of loin eye area (7.1 for gilts) and a 10_{th} rib backfat of.7 inch (.6for gilts).

The Ideal Market Hog



Ideal Market Hog
*240-260 pounds
*has a 10th rib backfat thickness of .7 or less
*is a minimum of 32 inches long
*has a loin eye area of 6.0 square inches or more

Ideal Hog Views



Evaluation of Market Hogs

A market hog should be moderate in height, long bodied, lean, heavy muscled, big volumed and structurally sound.

Market hogs should have the same general body conformation as breeding swine. In addition to volume and capacity, size and structural correctness traits such as muscling and fat which affect carcass merit are highly emphasized. The primary purpose of a market animal is for meat production. Frame size and structural soundness are examined but to a slightly lesser degree.

Muscle

*The correct muscle structure is long and thick to fit the frame of a hog. An excess of round, tight, bunchy muscle may adversely affect farrowing ease, reproductive efficiency and is related to stress problems. Traits that are found in the ideal market hog include:

-long, thick muscular ham
-thick rump
-wide set to rear legs
-muscular top and loin

Fat

*Fat in market hogs is undesirable. Presently, a back fat thickness of .7 or less measured at the 10^{th} rib is acceptable. Desirable traits in regard to leanness include:

-freedom of fat in elbow pocket
-trimness in ham seam and crotch area
-trimness over the loin edge
-no excessive fullness in jowl

Excess fat is a common fault in market hogs. It reduces the cutability (retail value) of market hogs. The amount of back fat on a hog is a reliable measure of overall finish and should be used as a judging tool whenever available. 10^{th} rib back fat thickness on superior hogs should be less than .7 inches. It should also be noted that fat indicates inefficiency of gain. It takes 2.5 times the amount of feed to produce a 1 lb. of fat vs. a 1 lb. of lean.

Besides muscling and fat, the overall weight of the market hog is important. Large-scaled, heavy-muscled hogs can be carried to heavier weights. Use weight per day of age if available. Many packers want hogs in the 240-260 pound weights.

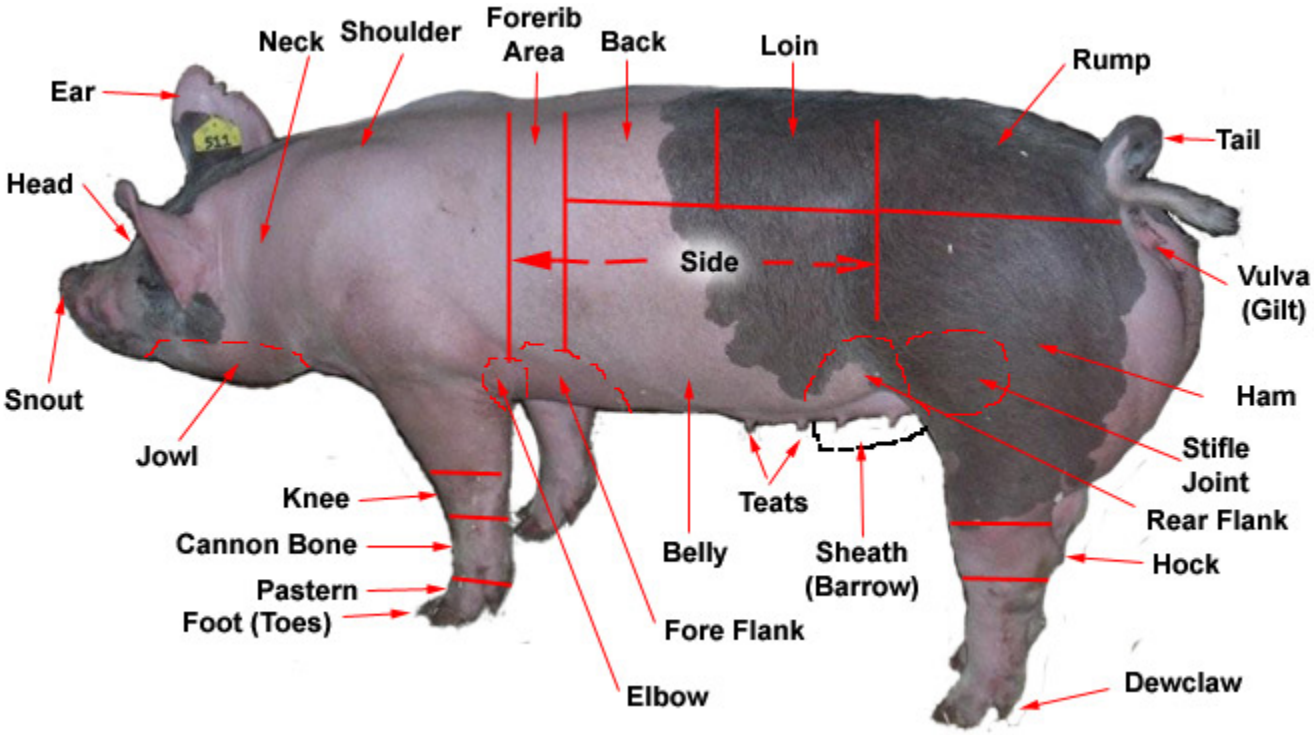
Carcass Merit

*Muscling and fat are two major factors in carcass merit. Meaty, heavy-muscled hogs are preferred to over-fat or light-muscled hogs. Thickness and firmness through the ham and over the back are indications of overall muscling.

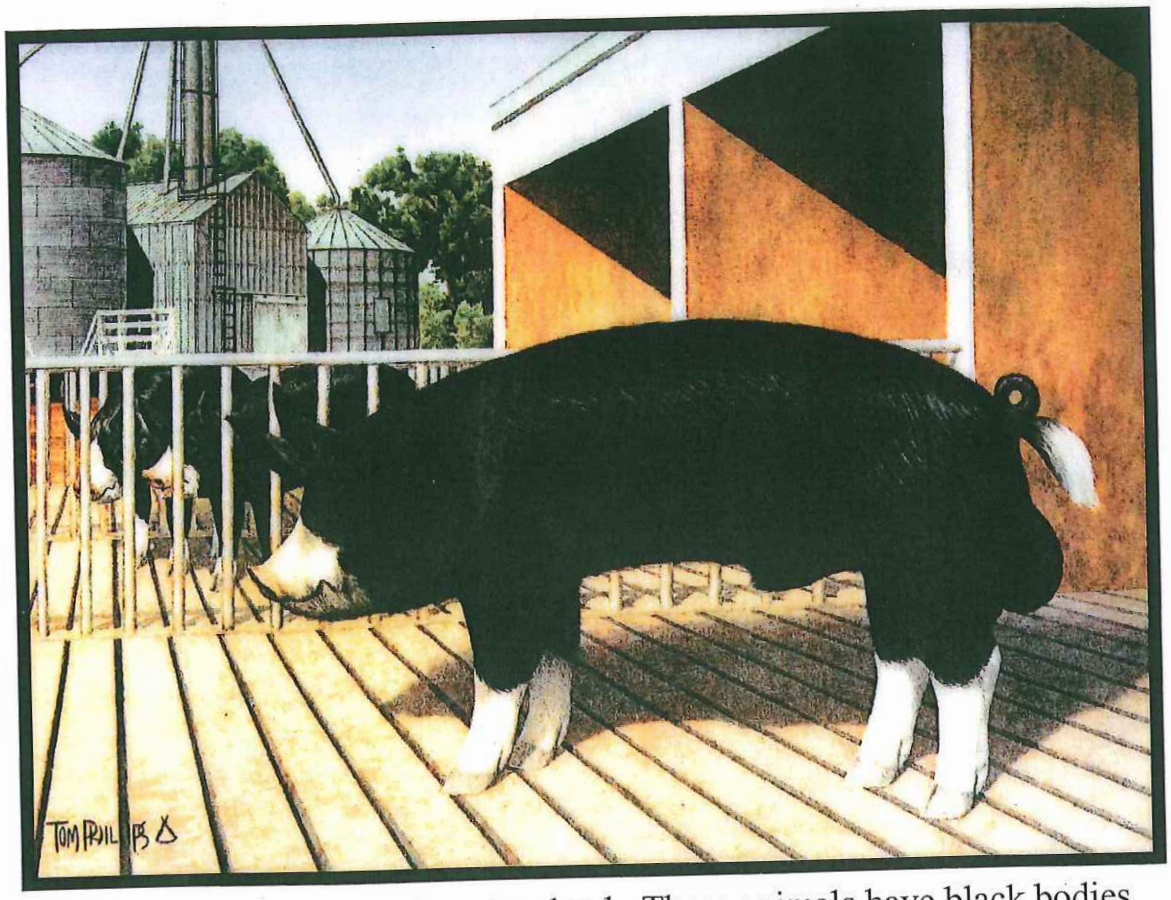
(Rev. 9/07)

Parts of a Hog

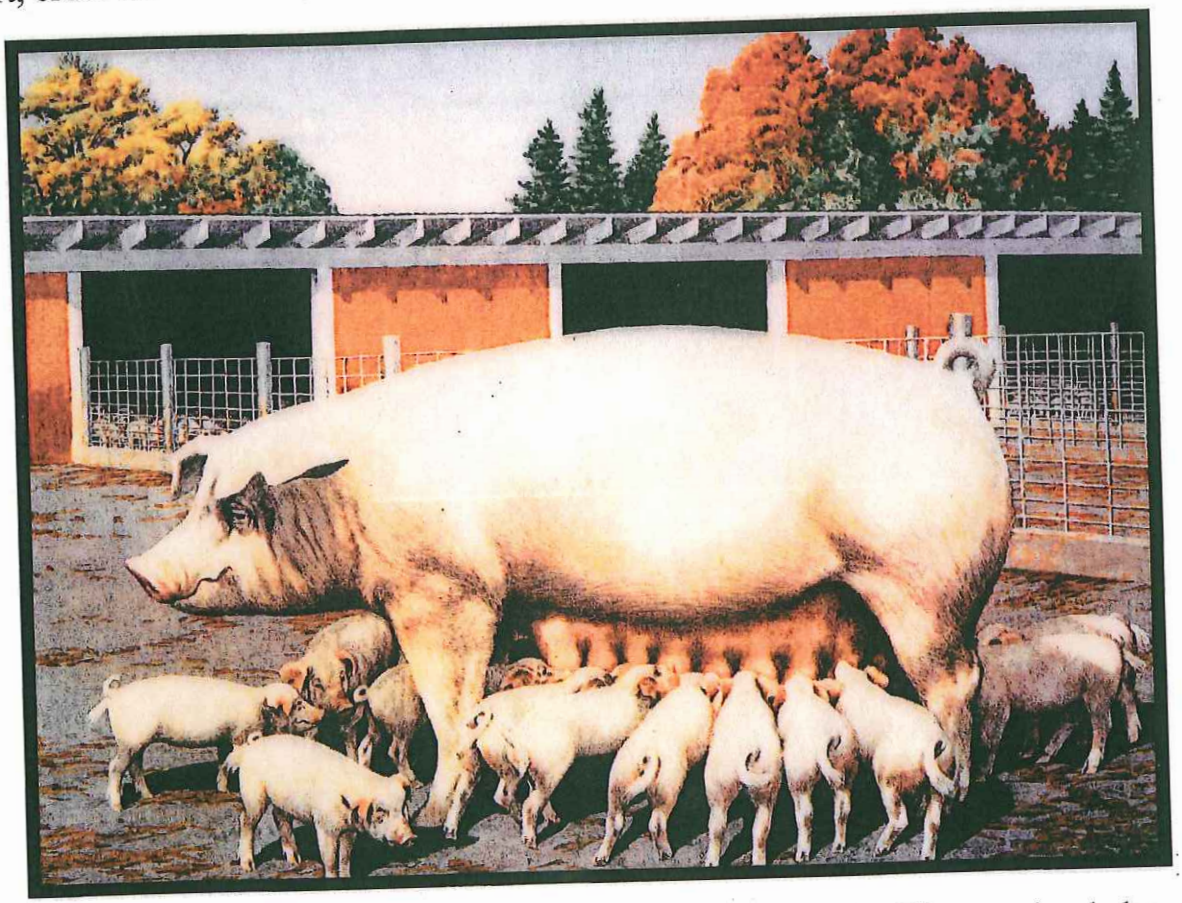
It is important for livestock producers to share a common language. Using the correct names for various body parts is one way to be certain your message is understood. Study the pictures with the names of the body parts labeled so that you can communicate with other producers using correct terms.



Juniors, Intermediate, Seniors

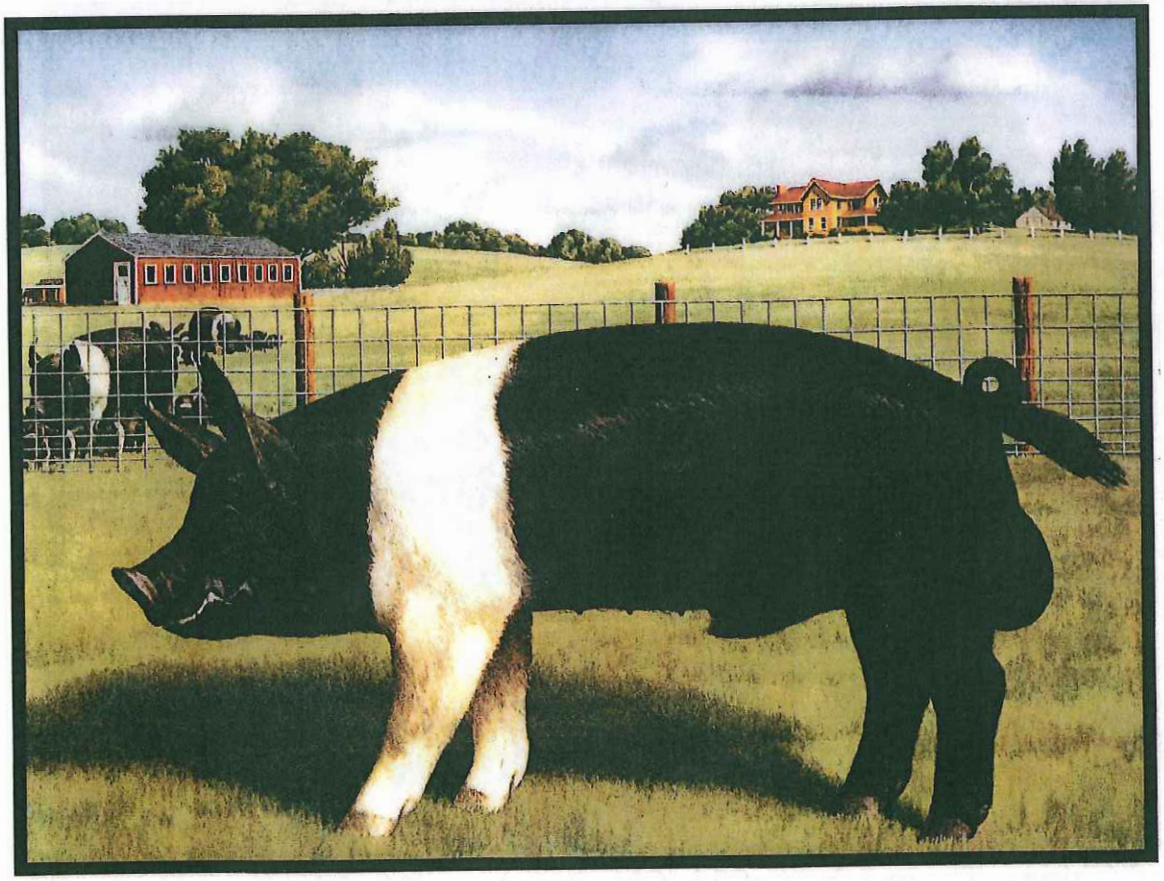


Berkshire – This breed came from England. These animals have black bodies with white feet, tails, and faces. They also have sound skeletons; dish snouts; and short, erect ears.

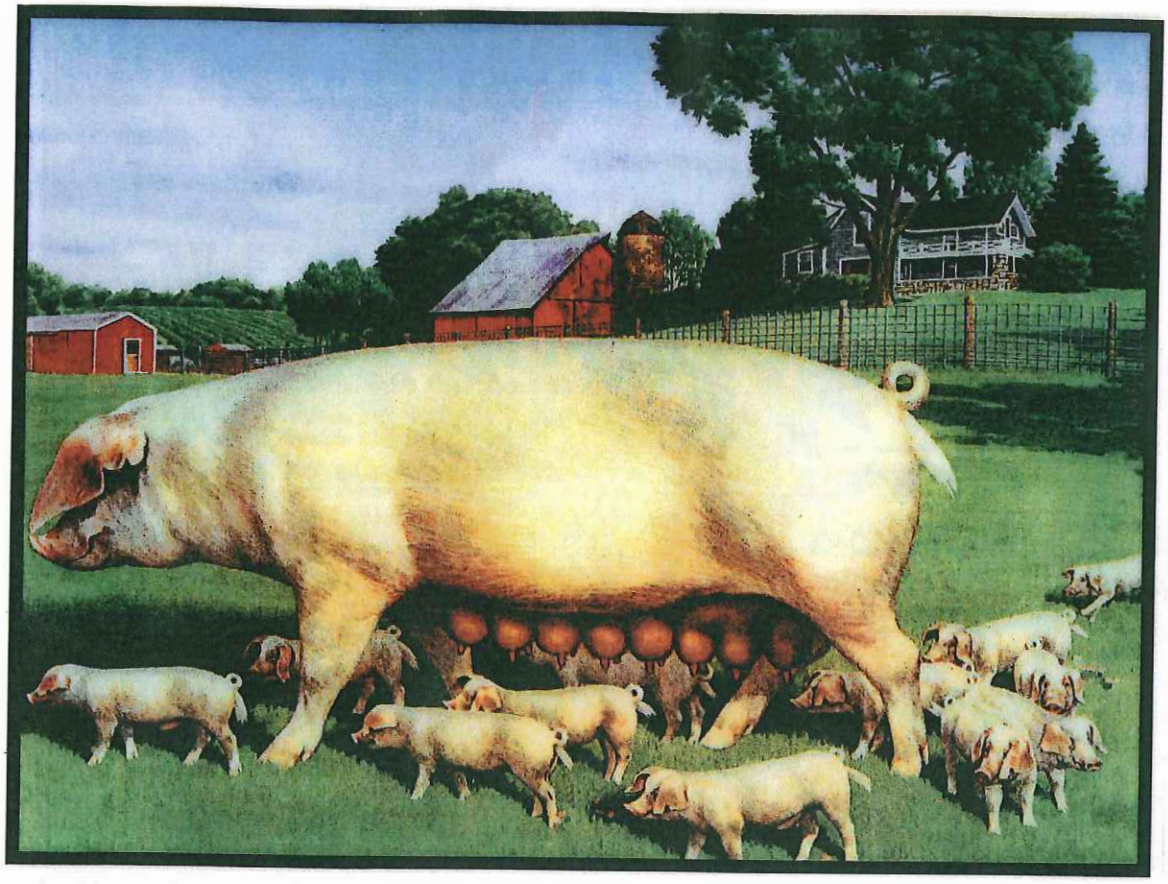


Chester White – This breed was developed in Pennsylvania. These animals have white bodies and medium-sized, droopy ears. They are also good mothers.

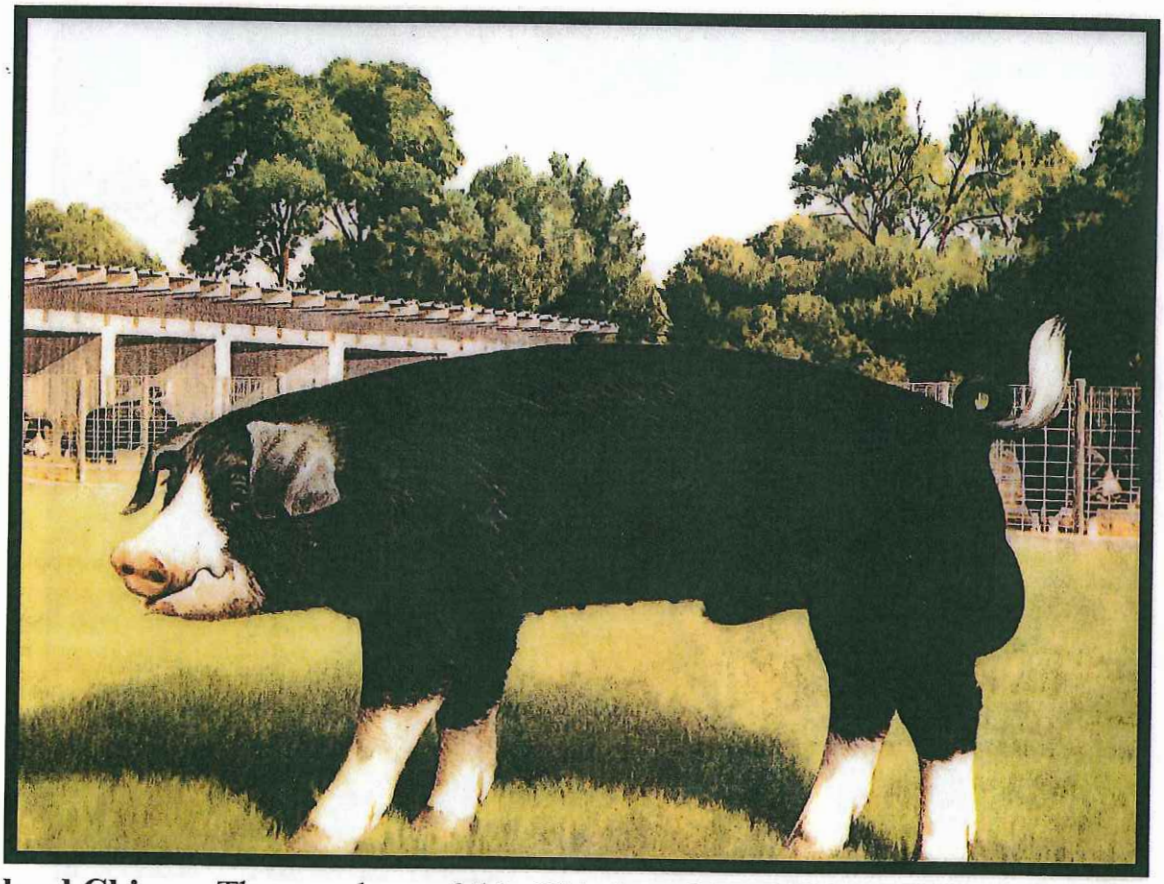
Duroc – This American breed came from crosses between red hogs in New York and red hogs in New Jersey. These animals have light red to dark red bodies and droopy ears. They grow quickly and efficiently and are good mothers.



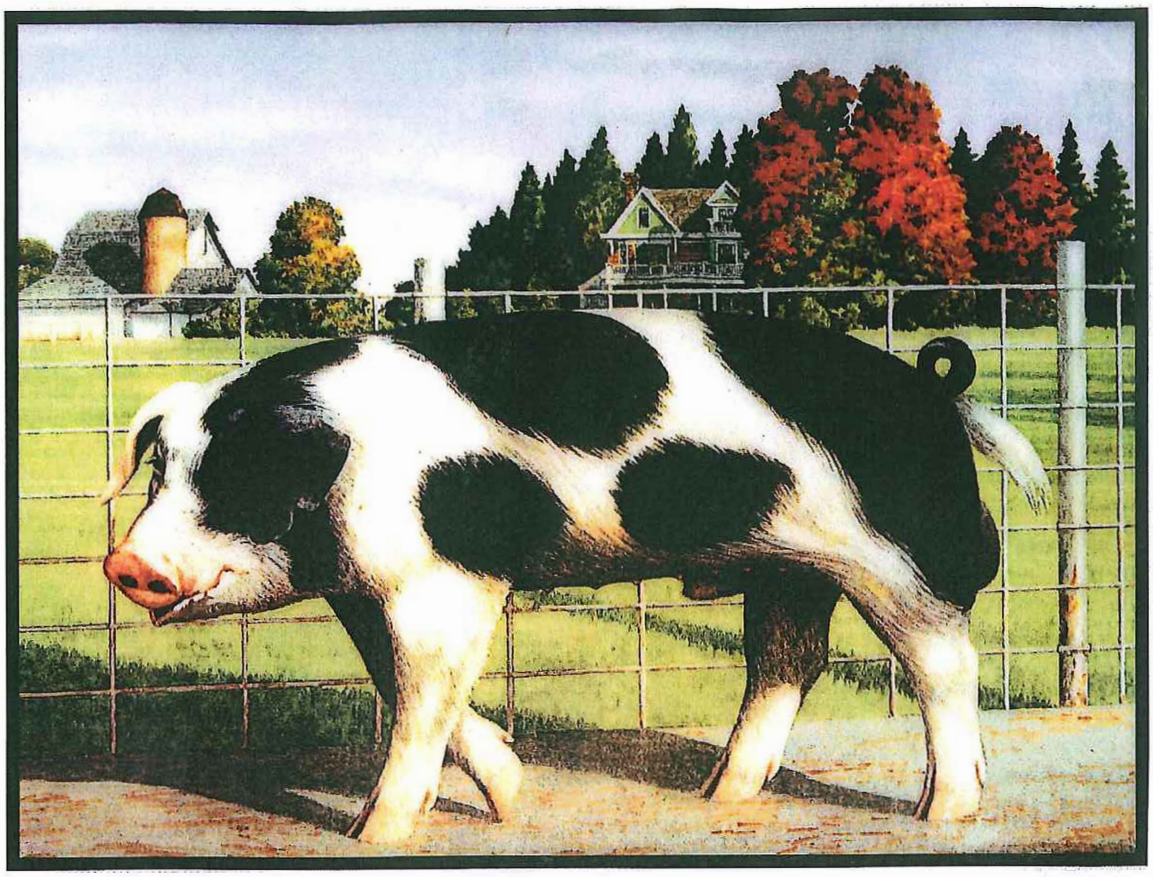
Hampshire – Developed in England, these animals have black bodies with a white belt around the shoulders and both front legs. They also have erect ears and heavy muscles.



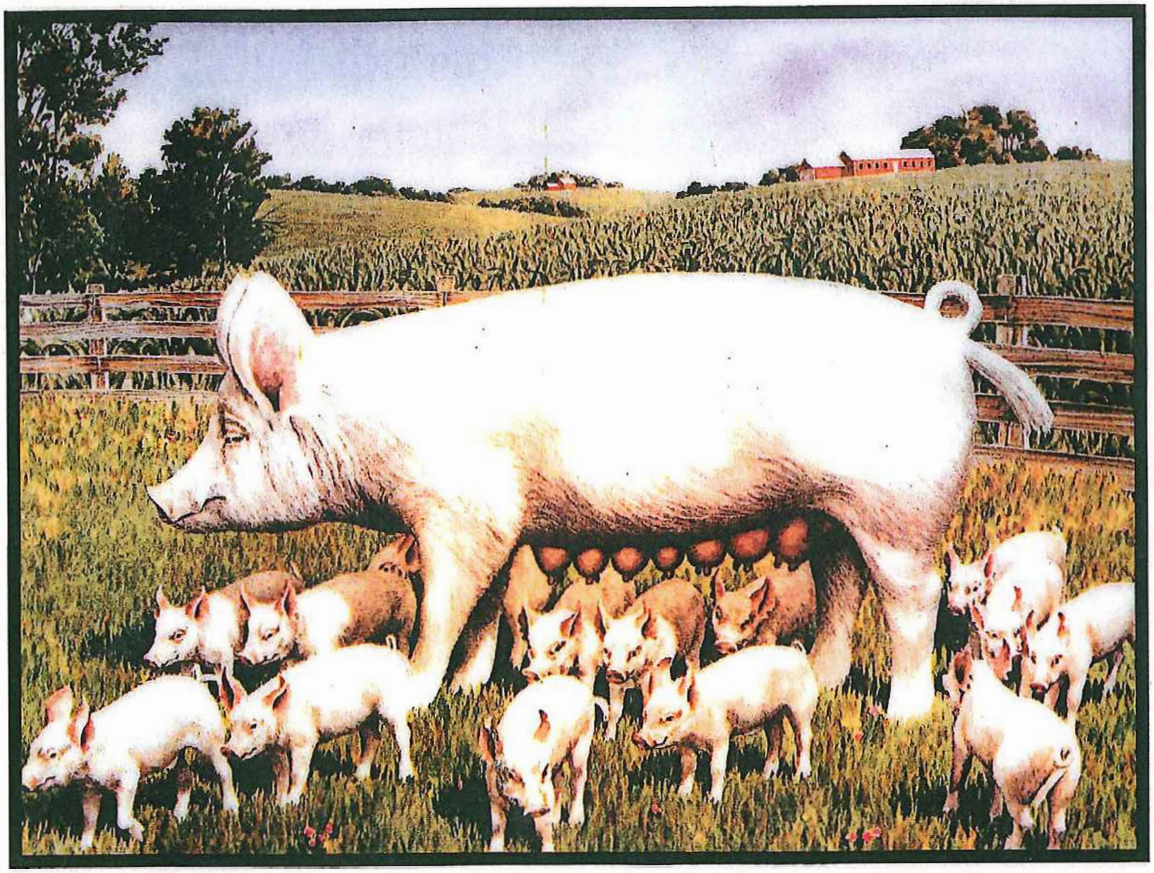
Landrace – Coming from Denmark, these animals have very long, white bodies and very large floppy ears. They are good mothers.



Poland China – The members of this Ohio breed have black bodies with six white points. The white points are their four legs, tail, and nose. They also have droopy ears. These animals are lean with heavy muscles.



Spotted – Developed in Indiana, these animals are medium-sized. They have black and white spotted bodies and droopy ears. Also, they gain weight easily and are aggressive breeders.

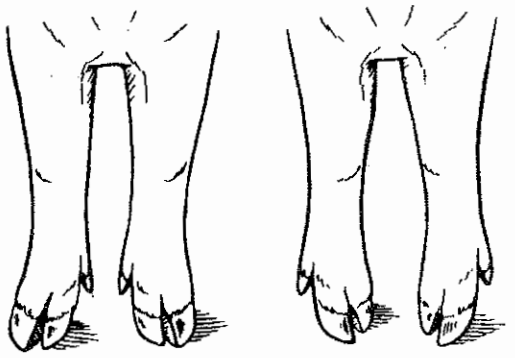


Yorkshire – Coming from England, these animals have long, large-framed, white bodies with erect ears. They are known as the "mother" breed because they produce large litters and are good mothers.

STRUCTURAL DIFFERENCES DESCRIPTIONS

Buck-kneed	When the calf is "over at the knees" or buck-kneed, full extension of the knee cannot occur when observed from the side. This is usually seen in cattle that are also too straight in their shoulder.
Calf-kneed	This is the other extreme, where the calf stands "back at the knees" when viewed from the side.
Weak Pastern	Having an angle greater than 45 degrees in the pastern/hoof alignment, putting too much pressure on the joint.
Postlegged	The hock has too little angle or set. The calf is too straight through the joint, resulting in very stiff, constricting movement because of the lack of flexibility. More cattle become unsound because of being postlegged than sickle hocked.
Sickle-hocked	When viewing the rear legs from the side, the hock has too much angle or set, causing the steer to stand too far underneath itself. Often these calves also will droop excessively from hooks to pins.
Bowlegged	When viewed from the front or rear, the knees set too far out.
Knock-kneed	When viewed from the front, the knees are close together.
Toed-out (splayfooted)	The feet toe out away from each other. This problem is often seen in extremely light-muscled, narrow-chested cattle, where the legs are naturally set too close together.
Toed-in (pigeon-toed)	Toes turn in towards each other.
Cow-hocked	When viewing the rear legs from the rear, the hocks are turned in or placed too close together.

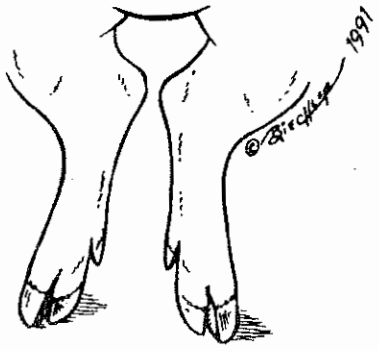
Front view



Splayfooted
(toes pointed out)

Pigeon-toed
(toes pointed in)

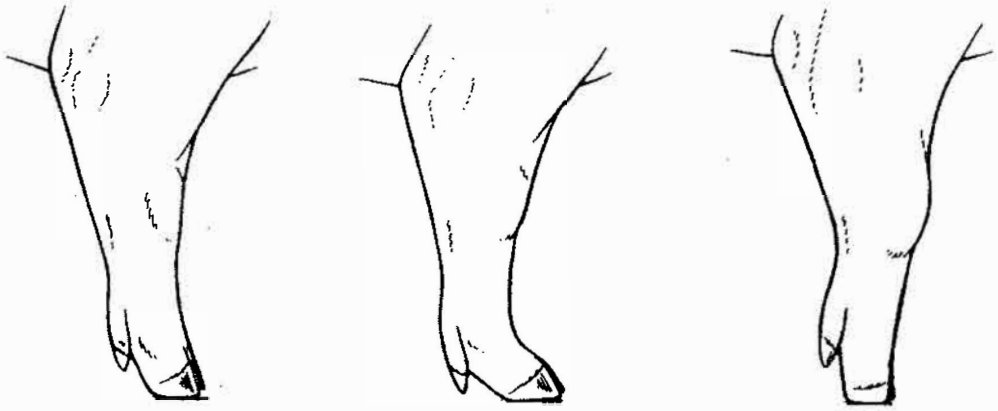
Rear view



Cow-hocked

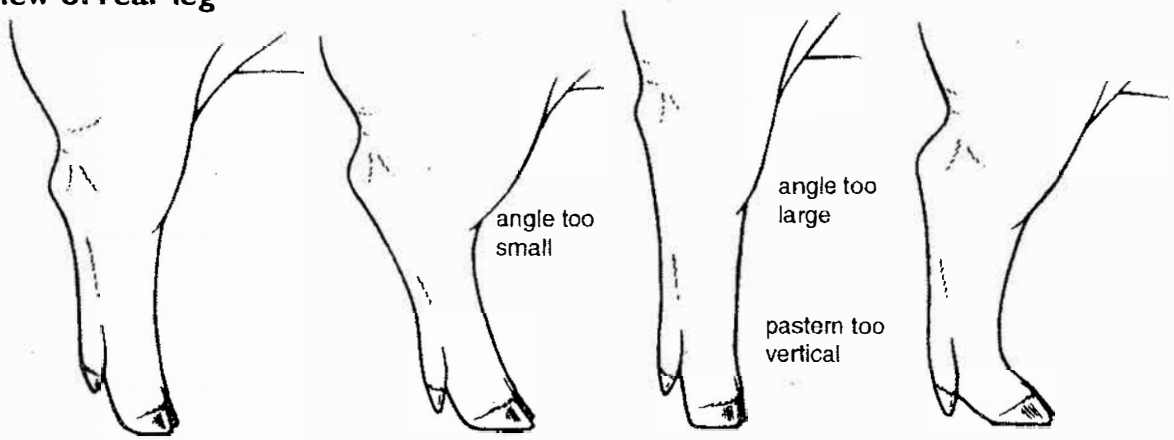
Foot and Leg Structural Deficiencies

Side view of front leg



Normal | Weak pastern | Buck-kneed

Side view of rear leg



Normal | Sickle-hocked | Post-legged | Weak pastern

Animal By-Products

Everything but the oink! Animal by-products are anything of economic value other than the carcass that comes from animals during harvest and processing. They are classified as edible or inedible for humans. There may be some disagreement about what is edible but we can all agree that there are many uses for what is left after the carcass is rolled into the cooler. In developing countries by-products may become jewelry, religious implements, tools, fuel, construction material, fly swatters, or musical instruments. In developed countries, advances in technology have created many products from non-animal sources (synthetics) which compete with animal by-products, thus reducing their value. Still, byproducts represent multi-billion dollar industries in the United States and other developed countries. An added benefit of changing inedible parts of carcasses into useful products is that the decaying materials don't pile up and cause environmental problems.

Hide and Hair
Artist's Brushes
Insulation
Upholstery
Gelatin
Footballs
Luggage
Gloves
Shoes
Drumhead

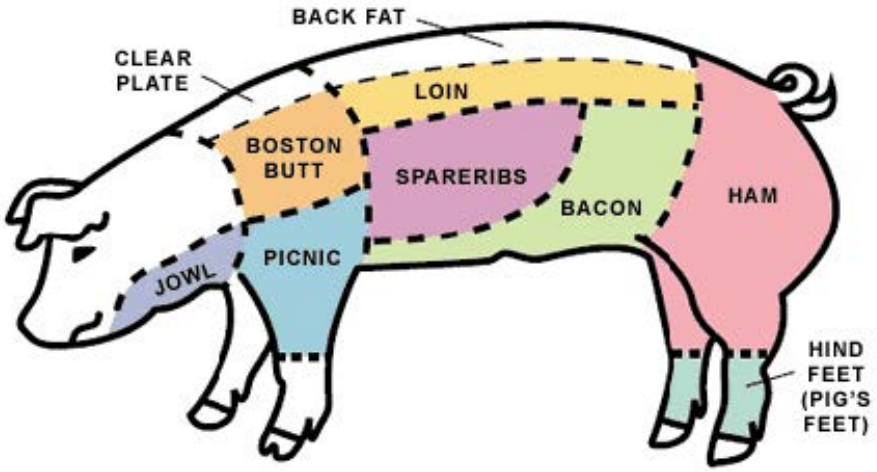
Intestines
Insulin
Medicine
Surgical sutures
Heart valves

Bone
Glue
Button
Glass
Fertilizer
Minerals for feed
Bone meal

Fat and Fatty Acids
Insecticides
Weed killers
Lubricants
Cosmetics
Oil polishes
Rubber
Antifreeze
Plastics
Floor wax
Crayons
Chalk
Putty
Matches
Linoleum

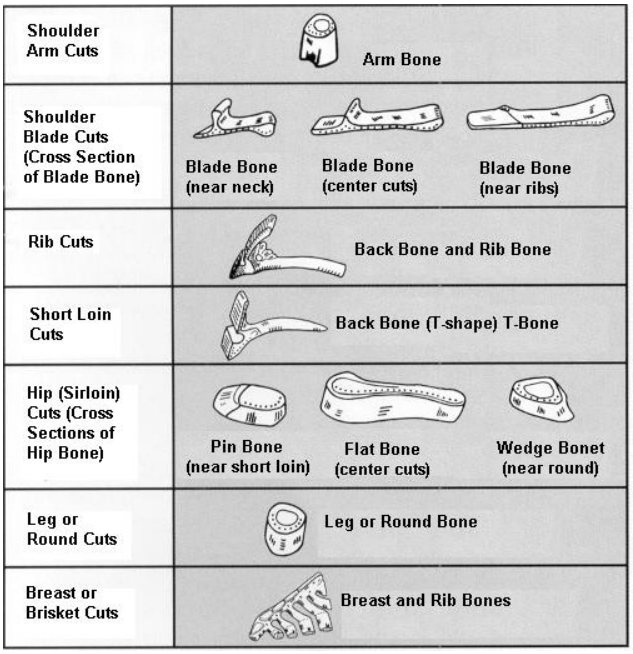
Wholesale Cuts of Pork

Fabrication of carcasses is the cutting of the carcass into wholesale and retail cuts for distribution to various markets. The size of the carcass and the preferences of the customer will determine how it is fabricated. For pork carcasses, wholesale cuts come from standard cutting methods developed to: a) Separate fat from lean portions b) Separate tough from tender sections c) Separate thick from thin sections d) Separate valuable from less valuable cuts e) Separate retail cuts by cutting across the grain.



Primal Cuts

Of the wholesale cuts, those that are lean, tender, thick, and valuable and that contain a large proportion of their muscles running in the same direction are called primal cuts. **The primal pork cuts are Ham, Loin, Arm Picnic Shoulder, and Blade Boston-Style Butt.**



COMMON LIVESTOCK TERMS

BOAR	Intact male of hog
SOW	Female that has produced progeny in hog
PROGENY	Offspring, young
PIG	Very young progeny
GILT	A young female of hog usually less than 12 months of age which has not farrowed a litter
BARROW	Male castrated prior to development of secondary sexual characteristics in hog
CARCASS	The dressed body of a slaughtered meat animal, offal having been removed.
FINISH	Refers to the amount of external fat covering on an animal.
MARBLING	Refers to flecks of fat distributed within the muscle.
MILKING ABILITY	Refers to the amount of milk an animal can produce
FARROWING	Giving birth
PASTERN	Sloping part of the leg just above the hoof.
HAM	The thigh
PARASITES	Organisms living on other organisms - doing harm
CROSSBREEDING	Is the mating of two animals from different breeds.
HYBRID	The offspring produced from crossbreeding.

Feed Label Information

A commercial law requires each bag or bulk load to be accompanied by a label showing several key items:

- Net weight
- Product name and brand name
- Drug additives
- Guaranteed analysis of the feed – crude protein, crude fat and crude fiber must be guaranteed on all feeds except straight mineral or vitamin supplements, molasses or drug compounds.
- Minimum percentage of crude protein, percentage of equivalent protein from non-protein nitrogen, if any. The amount of crude or total protein in a feed is guaranteed. Crude protein is determined by multiplying the nitrogen content of a feed by the factor 6.25.
- When non-protein nitrogen (NPN) is applied to feedstuffs, a statement "for ruminants only" must appear underneath the name of the feed. Additionally, it must also have a guarantee for crude protein which has been supplied from non-protein nitrogen.
- Minimum crude fat content – Fat has an energy value approximately 2.25 times the value of carbohydrate feedstuffs.
- Maximum crude fiber content – Crude fiber is a measure of the indigestible or non-useful portion of a feed. Feeds having low fiber values tend to be higher in digestible energy or total digestible nutrients than those feeds having high fiber values.
- Minerals – feeds containing 6.5 percent or more minerals must show a guarantee of: calcium – minimum and maximum; phosphorous- minimum; salt – minimum and maximum
- Vitamins, only if guaranteed
- Common and usual name of each ingredient or the collective term for each grouping of feed ingredients
- Directions for use and cautionary statements
- Name and principle mailing address of the manufacturer

50 lbs net weight

Brand Name Show Feed
(for ruminants only)

Medicated
Feed for 28 days as an aid in the maintenance of weight gains in the presence of respiratory diseases, such as shipping fever.

Caution: Use only as directed.
Discontinue use 14 days prior to slaughter.

Active Drug Ingredients:
Chlortetracycline 7.6 grams/ton

Guaranteed Analysis
CRUDE PROTEIN, not less than 12%
This includes not more than 1.00% equivalent crude protein from non-protein nitrogen.
CRUDE FAT, not less than 2.0%
CRUDE FIBER, not less than 19%

Ingredients: Grain products, roughage products, plant protein products, processed grain by-products, forage products, molasses products, calcium carbonate, salt, vitamin E supplement, vitamin A supplement, ferrous sulfate, potassium iodide, manganese oxide copper chloride, cobalt glucoheptonate, vitamin D3 supplement, sodium selenite.

RUMINANT MEAT AND BONE MEAL FREE

FEEDING DIRECTIONS: Feed at the rate of 12 pounds per head per day.

MANUFACTURED BY:
The Best Feed Company
P. O. Box 00000
Small Town, USA

BASIC LIVESTOCK TERMS

1. Condition, Finish or Covering – All are used to denote fat. The terms finish and covering are used to describe fat on market animals, while condition is used when describing breeding stock.

2. Growthiness – The characteristics of having size and weight at a certain age.

3. Balance or Symmetry – A proper proportion and blending of parts of the animal. Balance or symmetry is evaluated from a side view.

4. Ruggedness, Stoutness – The quality of being heavy or large boned. This is usually determined by the size of the cannon bone (from the knee to the ankle).

5. Quality – A general term that combines smoothness and refinement. Refinement of hair coat, freedom of wrinkles in hogs and freedom of roughness, patchiness in cattle indicates quality.

6. Scale – The size of the animal as determined by skeletal structure, independent of weight. The height, length and width of the animal.

7. Style – The general eye-appeal or attractiveness of the animal. Includes balance, structural correctness and quality.

8. Broodiness – Female breeding stock term that means she has a favorable combination of characteristics to be a good mother. Depth, capacity, prominence of teats and/or mammary system, stoutness and correctness of vulva.

9. Breed Character – Characteristics that separate breeding stock of one breed from other breeds, primarily by differences of the head: shape, length, dish of face, width of muzzle, shape of poll and ears, color markings and wool covering in sheep.

10. Trimness Freedom from fat or finish.

11. Meatiness/Muscling – Having a high proportion of muscle in the areas of the high-priced cuts. This is shown primarily by the relative width, length and fullness of the quarter, leg or ham, and by the thickness and fullness through the rib, rack or loin.

12. Type – A combination of characteristics that make an animal useful for a specific purpose. Determined by the general shape and form of an animal. Desirable types are constantly changing.

13. Tight Framed - The ability of the animal to hold itself together. Indicated by a strong top (back), tightness of shoulder and squareness of feet and leg placements.

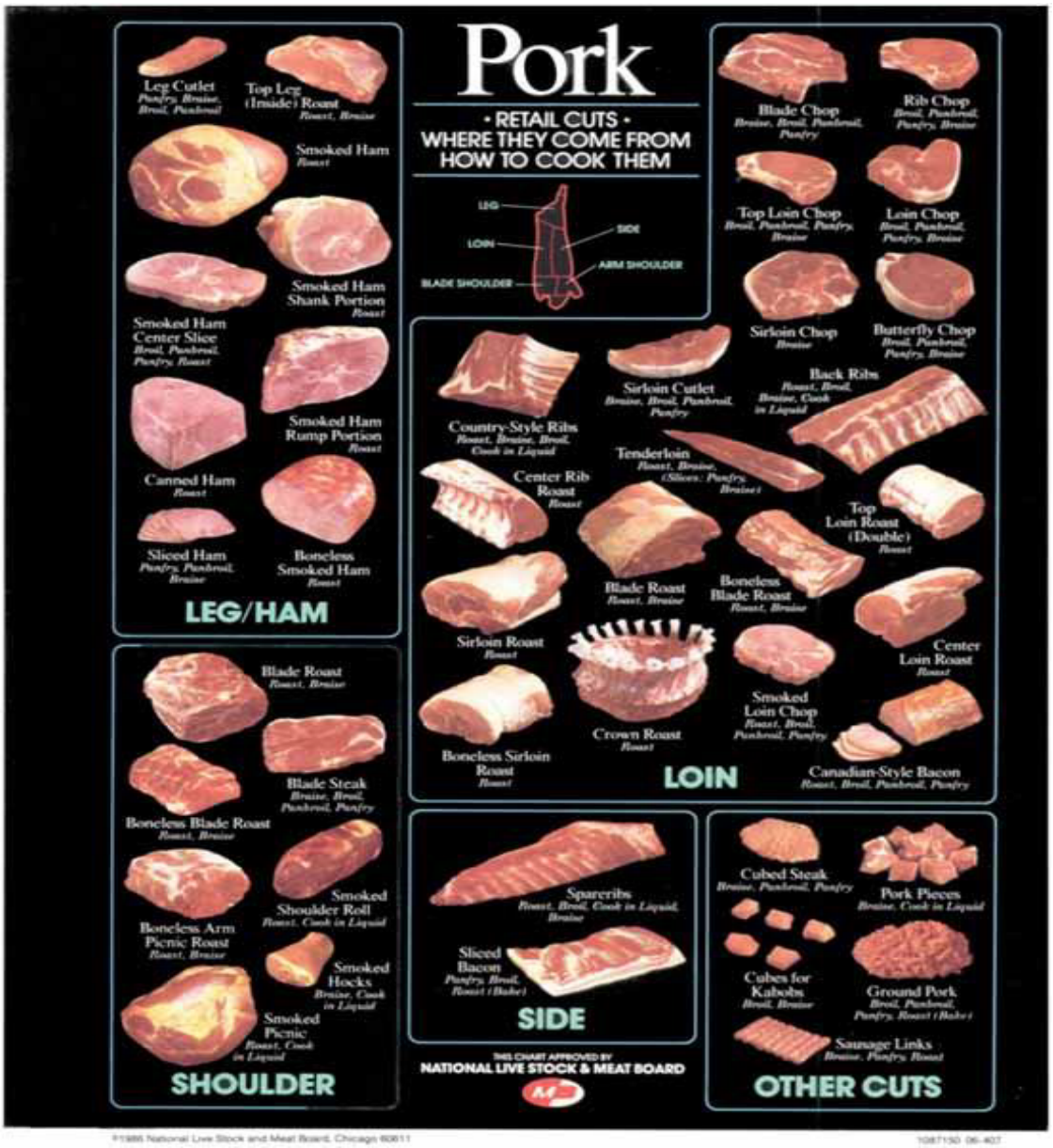
14. Structural Soundness – The desirability or correctness of the skeletal structure, with major emphasis on straightness of top and proper feet and leg structure.

15. Femininity – Characteristics that distinguish the female from the male. Indicated by refinement of the head, neck and shoulders.

16. Masculinity – Characteristics that distinguish the male from the female. Indicated by boldness or massiveness of head and chest, thickness of the neck and development of the forequarters.

Retail Cuts of Beef

At the retail markets, boxed cuts are used to generate retail cuts for the meat case. Different stores have their own styles for each cut in an attempt to meet their customers' needs. Retail specifications include size or thickness of cut, external fat trim, boneless or bone-in, and number of cuts per package. Items generated other than steaks and roasts may include stir fry, kabob, cubing material, and grinding material for processed or value-added products. Labels on meat must be specific for species, wholesale cut and retail cut names (example:Pork Shoulder Roast). A printable chart for retail cuts of pork and guides for making your own cuts can be found at: http://www.porkbeinspired.com/TheCuts.aspx



Visit the grocery store and practice visually identifying retail cuts of pork or go to: http://animal.ifas.ufl.edu/meat_extension/youth/meat_resources/docs/identifying_retail_cuts.pdf

Knots for Livestock Handling

There are many circumstances in swine handling that will require you to tie knots. Take the time to learn to tie several types of knots and hitches so that you will have the right knot for the right circumstance. Practice often so that it becomes second nature. In an emergency situation, you do not want to have to think about which knot to choose and how to tie it.

Knots join ropes together, attach ropes to a post or rail, or attach ropes to an animal.

Hitches are used to attach a rope to a post or rail - only thing securing the rope to post is the pressure of one rope coil wrapping upon the others.

Splices are used to permanently join ropes to one another - individual strands from each rope are interwoven with strands from the other.

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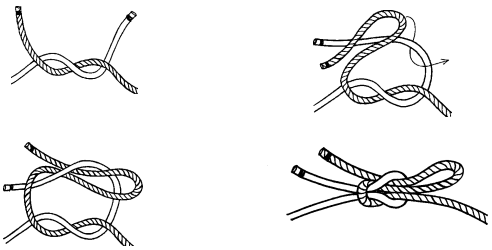
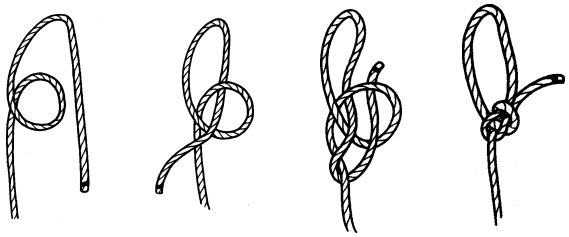
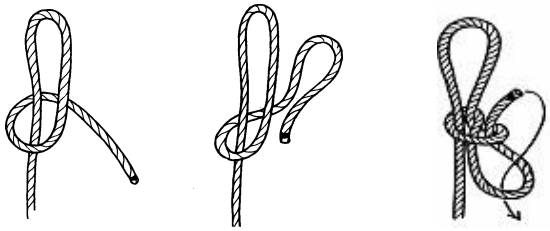
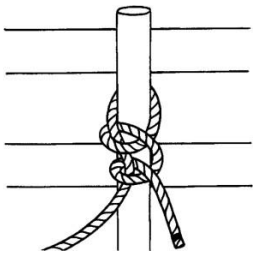
<tr><td>  </td><td>  </td></tr>
<tr><td>Reefer's Knot (Quick-Release Square Knot)
A good non-slip knot for tying ends of rope together and can easily be released. An advantage is that it can be tied under tension - an important feature for a knot used to restrain livestock.</td><td>Bowline Knot
A non-slip knot used to form a loop that will not tighten or draw down when placed around an animal's body or a post.</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Quick-Release Knot
The standard way to tie an animal to a post. A variation of a slipknot that can be released very quickly, even when under tension. This knot should never be tied around the neck or body of an animal.</td><td>Double Half Hitch
A quick and easy knot which acts like a slipknot and is a convenient way to tie up the end of a rope.</td></tr>
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