

# Pasco County Fair



## Swine Skill-a-thon Study Guide





Dear 4-H and FFA youth participant,

Welcome to the Pasco County Fair Skill-a-thon study guide. This manual is provided as a study guide and should be used as an aid to help youth prepare for the skill-a-thon which will be held at the Pasco County Fair.

A Skill-a-thon is a method of involving 4-H and FFA youth in challenging activities to increase knowledge of their animal project. The skill-a-thon is designed to take youth through a series of mini learning stations and the activities involve hands on learning. Participants will rotate from station to station attempting to perform a given task.

Junior participants will have fewer stations than Intermediate and Senior youth. It is recommended that youth study the entire booklet to prepare them for this challenge.

Curriculum in this package was developed by Extension Services. If you have questions, please contact your 4-H or FFA leader to assist you with your preparation.

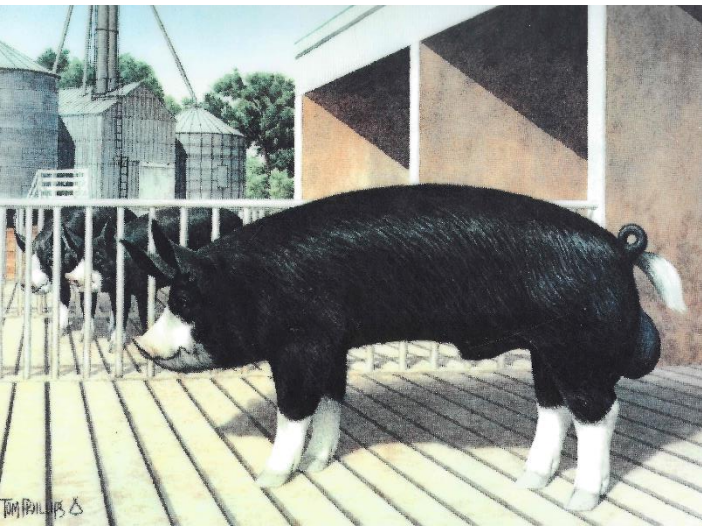
Study hard and you will be successful with this skill-a-thon.

Sincerely,

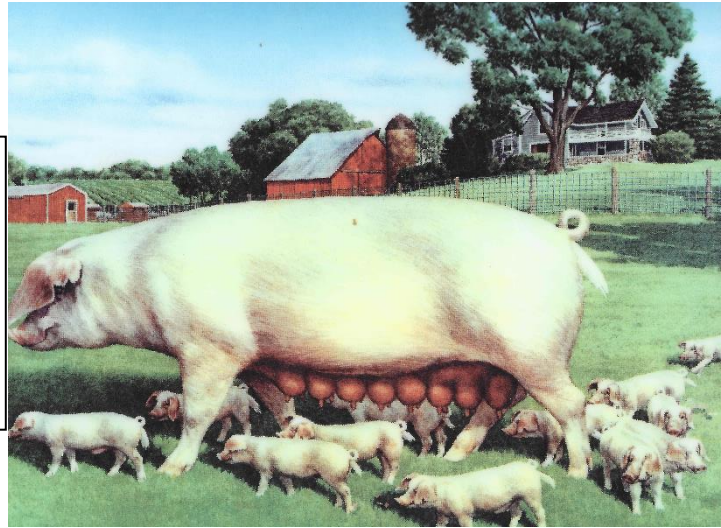
Shayla Reighter  
Pasco County 4-H Agent

**Breeds**

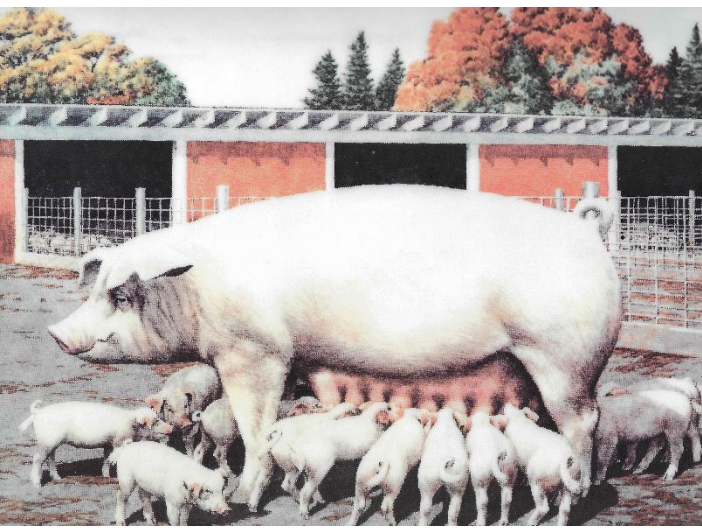




Berkshire



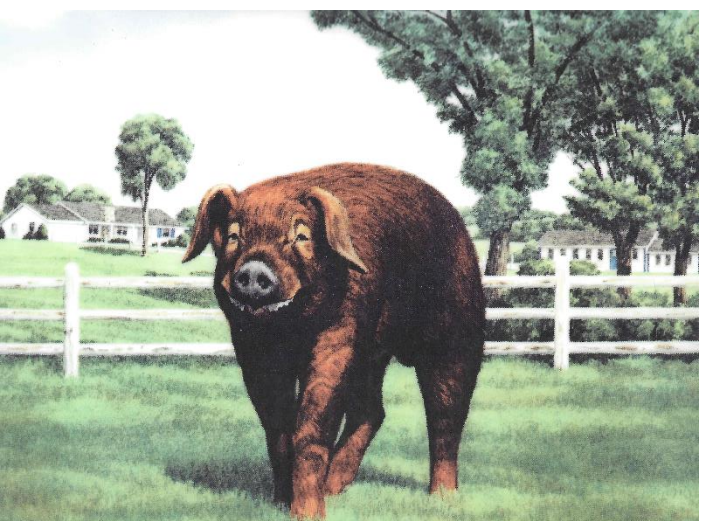
Landrace



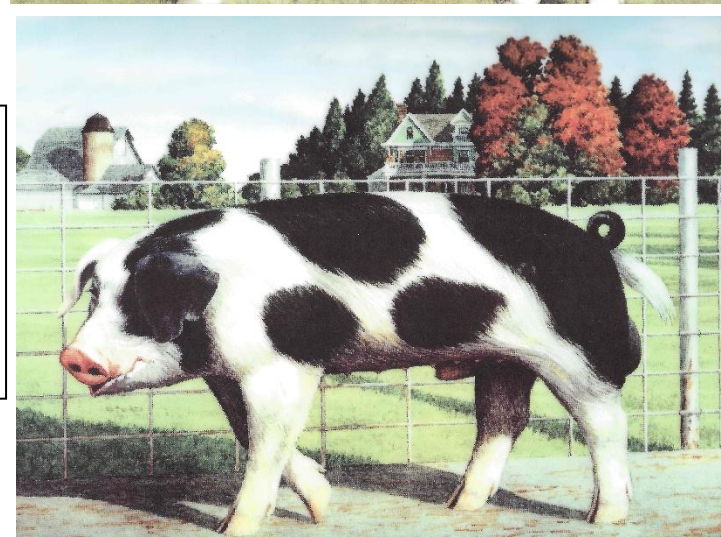
Chester White



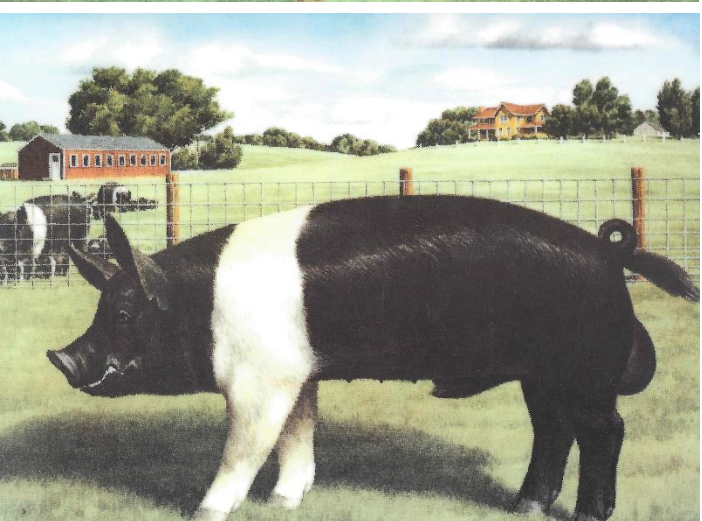
Poland China



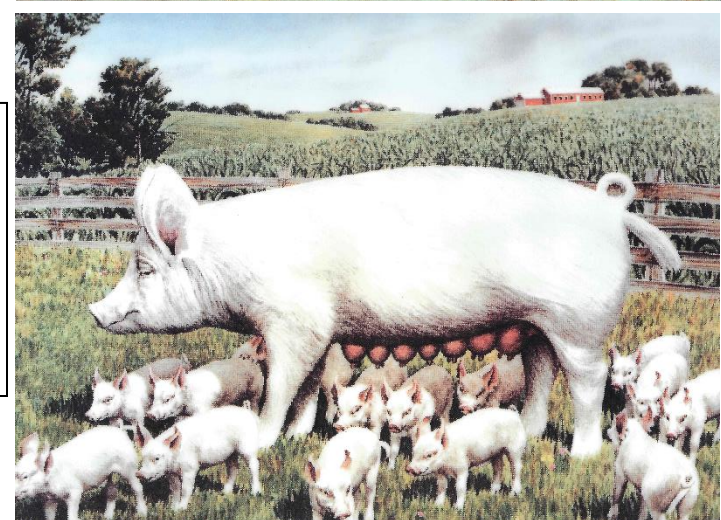
Duroc



Spotted



Hampshire



Yorkshire



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.

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Berkshire

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

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Chester White

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.

---

Duroc

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.

---

Hampshire

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

---

Landrace

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.

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Poland China

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.

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Spotted

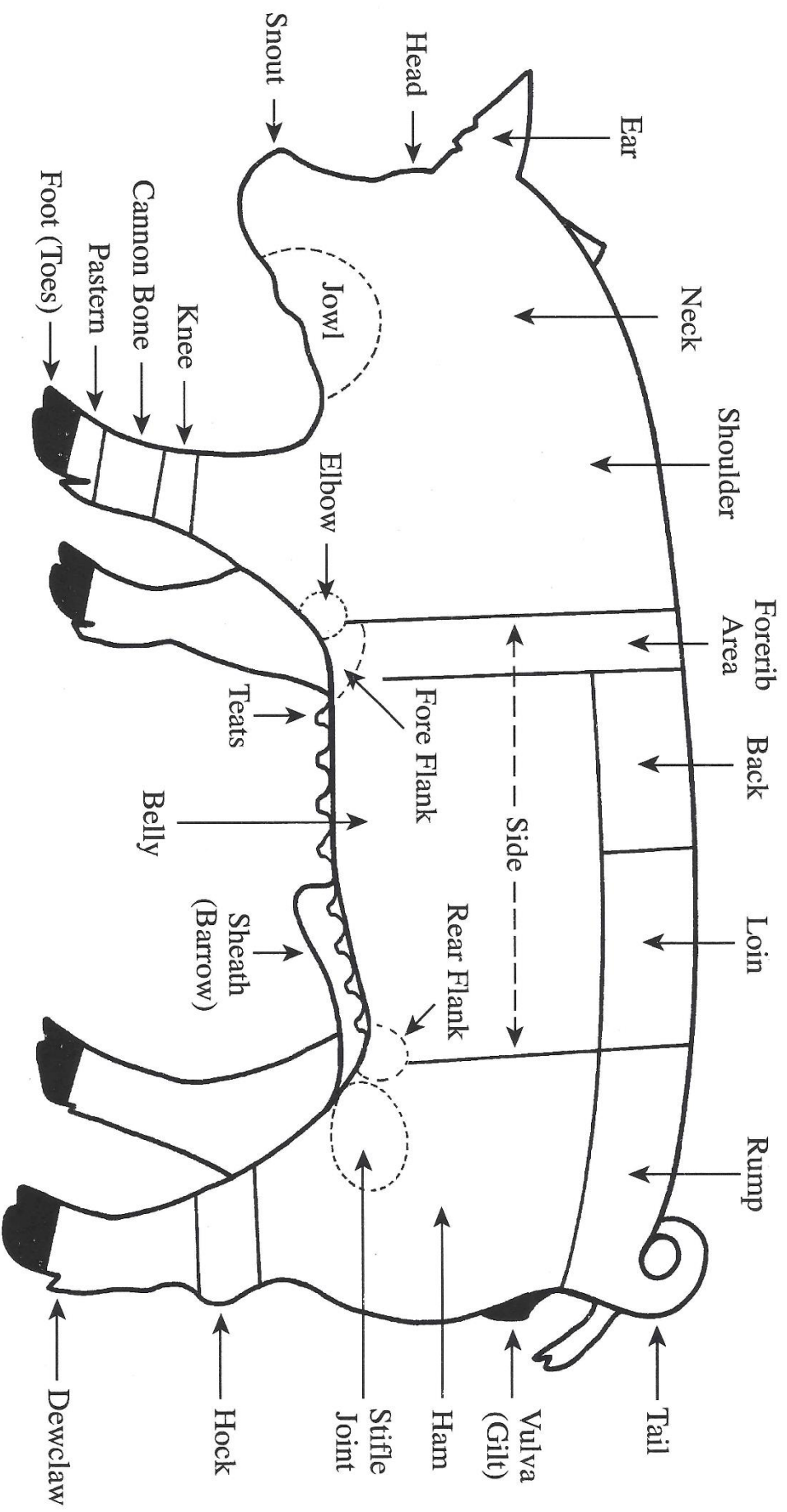
Coming from England, these animals have long, large-framed, white bodies with erect ears. They are known as the “mother” breed because they produce large litters and are good mothers.

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Yorkshire

# Anatomy

# Parts of a Hog



**SWINE**

LEARNING LABORATORY KIT

## Quality Assurance and Animal Care: Youth Education Program

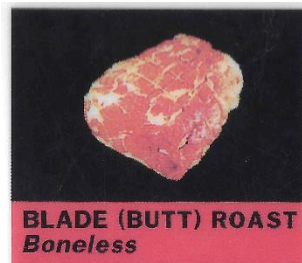
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# Meat Cuts





**BLADE (BUTT) ROAST**  
*Boneless*



**CENTER CUT CHOPS**  
*Boneless*



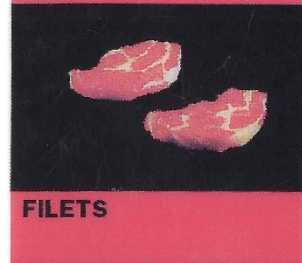
**CENTER CUT LOIN**



**CENTER CUT CHOPS**



**LEG (FRESH HAM)**  
*Boneless*



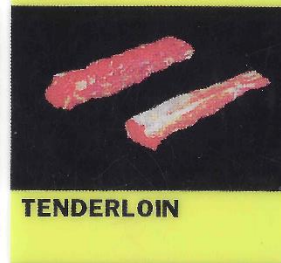
**FILETS**



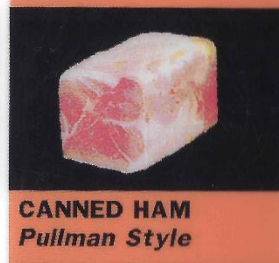
**COUNTRY STYLE RIBS**



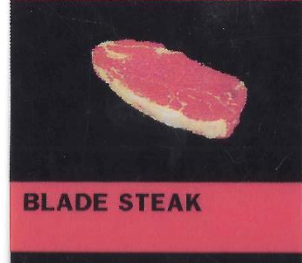
**BACK RIBS**



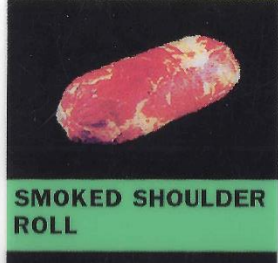
**TENDERLOIN**



**CANNED HAM**  
*Pullman Style*



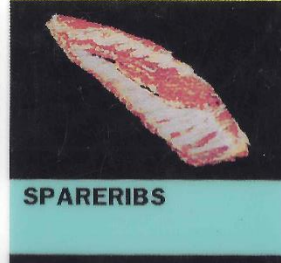
**BLADE STEAK**



**SMOKED SHOULDER ROLL**



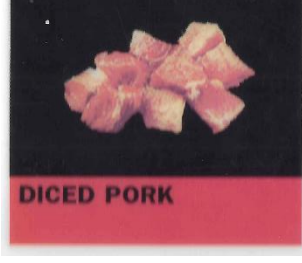
**CANADIAN STYLE BACON**



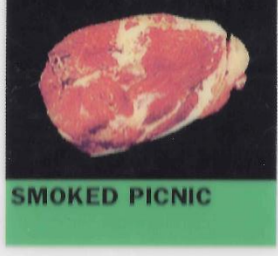
**SPARERIBS**



**SMOKED HAM**  
*Skinless, Boneless*



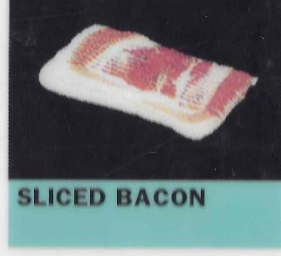
**DICED PORK**



**SMOKED PICNIC**



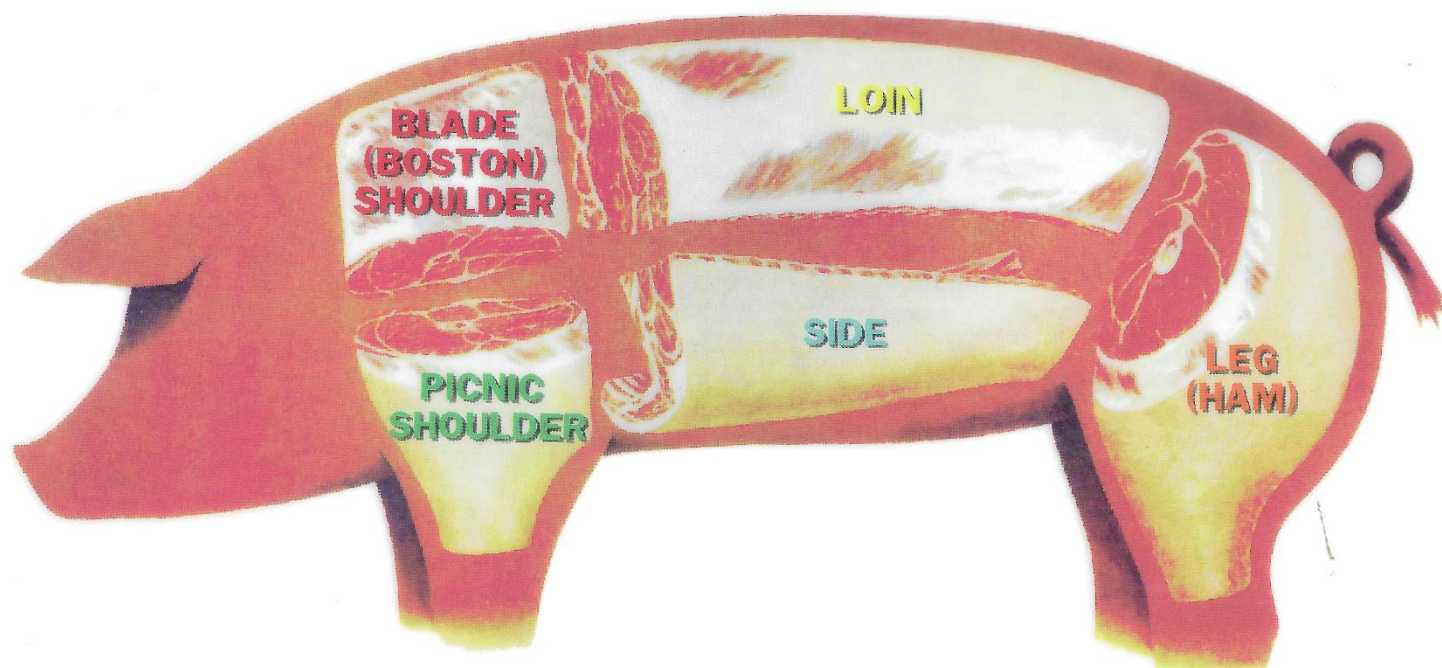
**TOP LOIN ROAST**  
*Boneless*



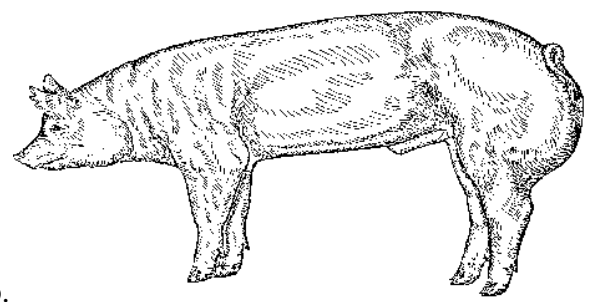
**SLICED BACON**



**SMOKED HAM CENTER SLICE**



# Conformation

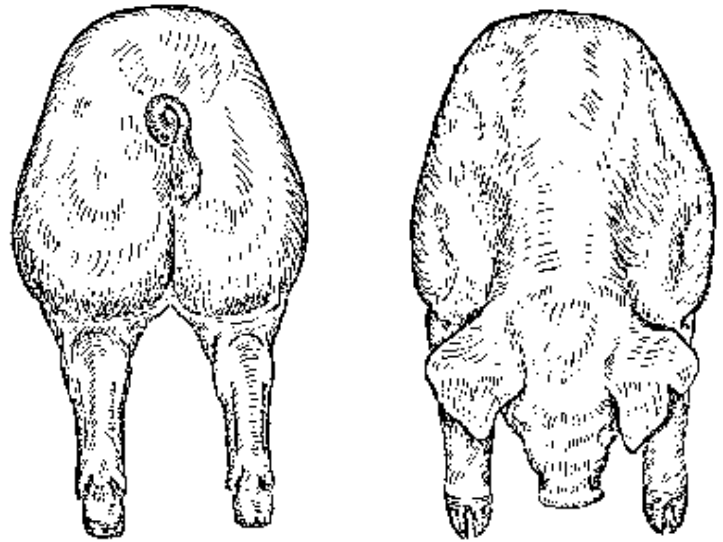


### Side View

- The pig should be muscular, sturdy, and fast growing.
- He should be long, especially through the loin and rump.
- The hams should be plump and meaty indicating good muscling throughout.
- He should move freely, with a long, smooth stride.
- The pig should be clean through the jowls and trim over his top, side and belly.
- His bone should be strong and rugged.
- He should have plenty of room for heart and lungs in his chest.
- The pig should move freely, with a long, smooth stride.
- A pig with a short, choppy stride (often called "Peggy") indicates conformation problems, usually being short bodied and rumped, or is unsound on his feet and legs.

### Rear View

- A muscular pig will be wider through his hams than through his shoulders.
- The hams should be well muscled, both inside and outside the leg.
- He should stand wide behind, to allow room for muscling in his hams.
- He needs some spring and cushion to his pastern to stay sound on his feet.

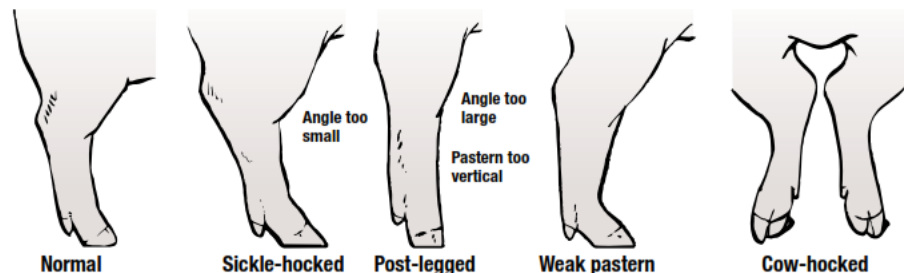


### Front View

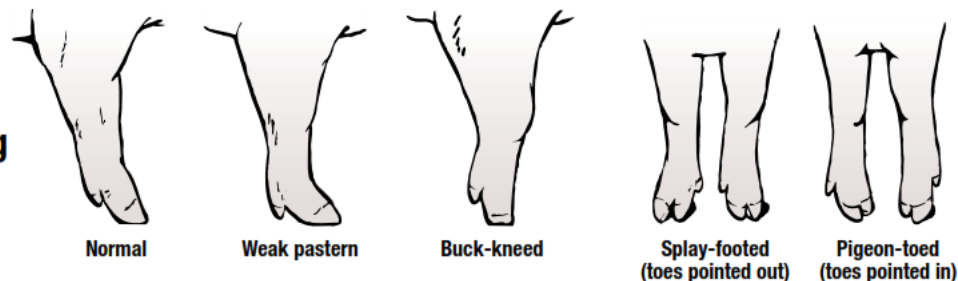
- The pig should be plenty wide through his chest between his front legs.
- Narrow chested pigs are very prone to colds and pneumonia.
- He needs some spring and cushion to his pastern to stay sound on his feet.

Combining all of the characteristics listed in one animal would create an animal with ideal swine conformation.

### Side view of rear leg



### Side view of front leg





# Medication Label

# Medication Label

Name of Drug \_\_\_\_\_

**OMNIBIOTIC**

(hydrocillin) \_\_\_\_\_ Active Ingredients

**Directions for use: See package insert**

Cautions  
and Warnings \_\_\_\_\_

**Warning:** The use of this drug must be discontinued for 30 days before treated animals \_\_\_\_\_  
are slaughtered for food. Exceeding the highest recommended dosage level may result in antibiotic residues in meat or milk beyond the withdrawal time.

Withholding  
Times

Quantity  
of Contents \_\_\_\_\_

TAKE TIME



OBSERVE LABEL  
DIRECTIONS

Net Contents: 100 ml

Distributed by

**USA Animal Health, Inc.** \_\_\_\_\_ Name of Distributor

**Store between 2° and 8° C (36° and 46° F)** \_\_\_\_\_ Storage

**Keep dry and away from light**



**SWINE**

**Quality Assurance and Animal Care: Youth Education Program**

This material is based upon work supported by Extension Service,

United States Department of Agriculture, under special project number 93-EFSQ-4096.

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# Medication Insert

Name of Drug

**OMNIBIOTIC**

(Hydrocillin in Aqueous Suspension)

Active Ingredients

For use in Beef Cattle, Lactating and Non-Lactating Dairy  
Cattle, Swine and Sheep

Species and  
Animal Class

Read Entire Brochure Carefully Before Using This  
Product

**For Intramuscular Use Only**

Approved  
Uses

**Active Ingredients:** Omnibiotic is an effective antimicrobial preparation containing hydrocillin hydrochloride. Each ml of this suspension contains 200,000 units of hydrocillin hydrochloride in an aqueous base.

**Indications: Cattle** - bronchitis, foot rot, leptospirosis, mastitis, metritis, pneumonia, wound infections. **Swine** - erysipelas, pneumonia.

**Sheep** - foot rot, pneumonia, mastitis; and other infections in these species caused by or associated with hydrocillin-susceptible organisms.

## Recommended Daily Dosage

The usual dose is 2 ml per 100 lb of body weight  
given once daily. Maximum dose is 15 ml/day.

Dosage

Body Weight	Dosage
100 lb	2 ml
300 lb	6 ml
500 lb	10 ml
750 lb or more	15 ml

Continue treatment for 1 to 2 days after symptoms disappear.

Cautions  
and Warnings

**Caution:** 1. Omnibiotic should be injected deep within the fleshy muscle of the neck or thigh. Do not inject this material in the hip or rump, subcutaneously, into a blood vessel, or near a major nerve because it may cause tissue damage. 2. If improvement does not occur within 48 hours, the diagnosis should be reconsidered and appropriate treatment initiated. 3. Treated animals should be closely observed for at least 30 minutes. Should a reaction occur, discontinue treatment and immediately administer epinephrine and antihistamines. 4. Omnibiotic must be stored between 2° and 8° C (36° to 46° F). Warm to room temperature and shake well before using. Keep refrigerated when not in use.

Route of  
Administration

Storage  
Requirements

**Warning:** Milk that has been taken from animals during treatment and for 48 hours (4 milkings) after the last treatment must not be used for food. The use of this drug must be discontinued for 30 days before treated animals are slaughtered for food.

Withholding  
Times

Sizes

Available

**How Supplied:** Omnibiotic is available in vials of 100 ml.

TAKE TIME



OBSERVE LABEL  
DIRECTIONS



**Quality Assurance and Animal Care: Youth Education Program**

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# Nutrition

**Nutrients** – are components in foods that an organism uses to survive and grow. There are two types, Macro and Micro. Macro provide the bulk energy an organism's metabolic system needs to function while micro provide the necessary cofactors for metabolism to be carried out. Both types can be acquired from the environment.

**Water** – is an essential nutrient and is the solvent in which all the chemical reactions of life take place.

**Proteins** – are organic compounds that consist of amino acids joined by peptide bonds. The body cannot manufacture some of the amino acids (termed essential amino acids); the diet must supply them. This nutrient is broken down through digestion by proteases back into free amino acids

**Carbohydrates** – are compounds made up of types of sugars. They are classified by their number of sugar units: monosaccharides (such as glucose and fructose), disaccharides (such as sucrose and lactose), oligosaccharides, and polysaccharides (such as starch, glycogen, and cellulose).

**Fats** – are needed to keep cell membranes functioning properly, to insulate body organs against shock, to keep body temperature stable, and to maintain healthy skin and hair.

**By Products**



By-products are incidental or secondary products made in the manufacture or synthesis of something else.

In addition to pork, several valuable products come from swine, including:

Bone China

Heart Valves

Gelatin

Marshmallows

Insulin

Football

Matches

Chewing Gum

Linoleum

Antifreeze

Rubber

Wax

Crayons

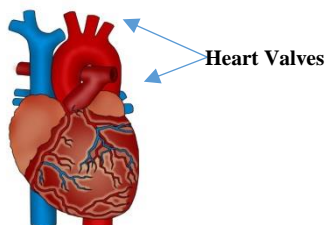
Chalk

Glue

Paint Brushes

Tires

Weed Killer



**Feedstuff**

**Identification**

The skill of properly identifying feedstuffs and additives, as well as understanding their purpose in the feed ration will enable you to ensure that your swine project is receiving the proper nutrients. It will also allow you to make critical feeding adjustments to alter the way your project puts on condition, or the speed at which your project grows.

## **Energy**



Whole Corn



Cracked Corn



Wheat



Grain Sorghum (Milo)



Barley



Oats



Rye



Wheat Middlings

## **Protein**



Soybean Meal



Fish Meal



Dried Wheat



# **Mineral**



Dicalcium Phosphate



White Salt



Trace Mineral Salt



Ground Limestone (Calcium Carbonate)

# **Methods of Identification**

# Ear Tattoo

Procedure –

1. Assemble the necessary equipment. It is important that the numbers and/or letters be placed into the tattooing instrument in the proper order. As you look at them in the tattooing instrument, they should appear backward. Always check the numbers and/or letters on a piece of paper or card board before you begin to make sure they are correctly placed.
2. Restrain the animal.
3. Two ribs of the cartilage divide the ear into top, middle and bottom thirds. The tattoo should be placed in the thinner part of the lower ear (inside or out). Tattooing on the edges of the ear or in the hair portion of the ear can make reading the tattoo difficult. Do not tattoo between the two cartilage ribs; this area is reserved for some types of ear tags.
4. Clean the inside of the ear, where the tattoo will be placed, with a cloth soaked in alcohol. Infections or warts can result if a tattoo is placed in a dirty ear.
5. Position the tattoo instrument, squeeze the handles of the tattooing instrument together completely and quickly; then release them fully. Avoid veins.
6. Rub tattoo ink or paste into all of the needle marks. Work the ink or paste well into the marks.
7. Release the animal.
8. Clean the tattooing equipment with Nolvasan (disinfectant) after each day of use.

# Ear Tagging

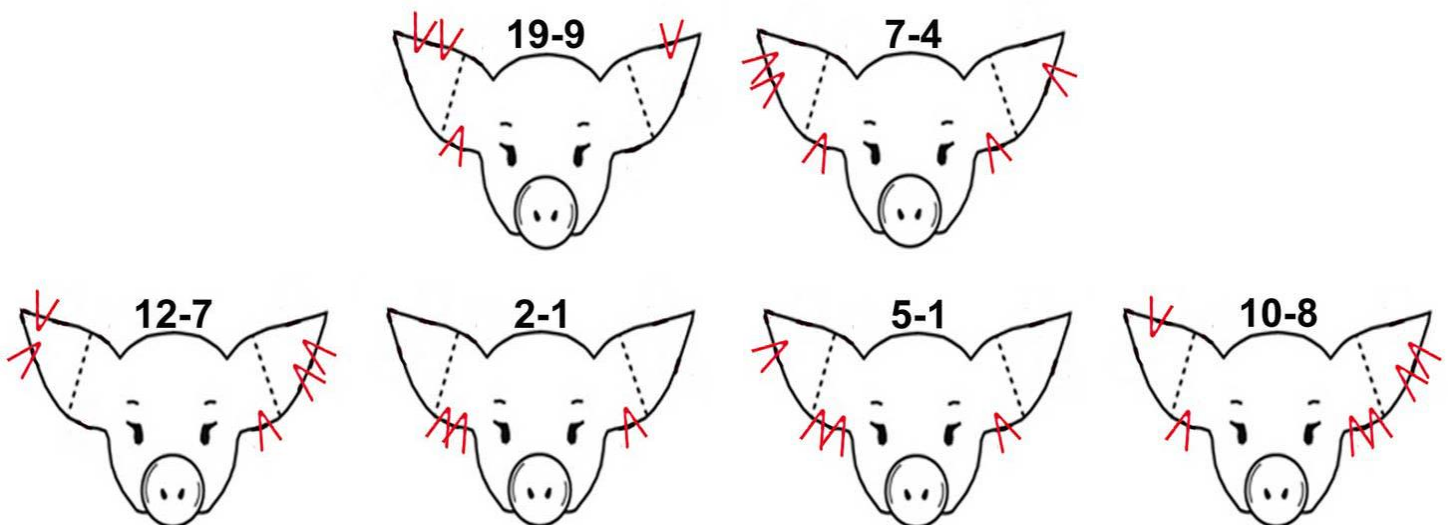
Procedure –

1. Select tag style and size, contrasting ink and tag colors.
2. Select a numbering system for the ear tags.
3. Select pre-numbered or blank tags. Pre-numbered tags are more convenient, but not as adaptable to your “system” as the blank tags can be. If you choose the blank tags, number the plastic tags with marking pens recommended by the tag manufacturer. Number the tags with large numbers along their bottoms so that they can be seen from a distance when hair grows in the ear. Soak the tag and button prior to application.
4. Insert the ear tag into the appropriate applicator. Each tag manufacturer has an applicator designed specifically for its type of tag. Two-piece tags require that the male portion of the tag be slid over a pin and the female portion inserted into a clip. Be sure to follow the manufacturer’s directions when inserting the tag into the applicator. When using two part tags make sure that the male portion of the tag lines up with the female portion of the tag.
5. Select the ear to be tagged and the tagging site on the ear. The site selected will vary with the style of tag selected. Two-piece tags should be placed between the cartilage ribs or below the ribs approximately halfway between the base and tip of the ear. Since the male part is the piercing part, it is easier to locate exactly where you want to place the tag if the male part of the tag is placed in front of the ear.
6. Hold the ear with one hand while using the other hand to insert the ear tag. Pay particular attention to the proper ear tag site. The two-piece tag is applied with a pliers-type applicator by squeezing the handles until the ear tag snaps together.
7. Release the animal.

# Ear Notching

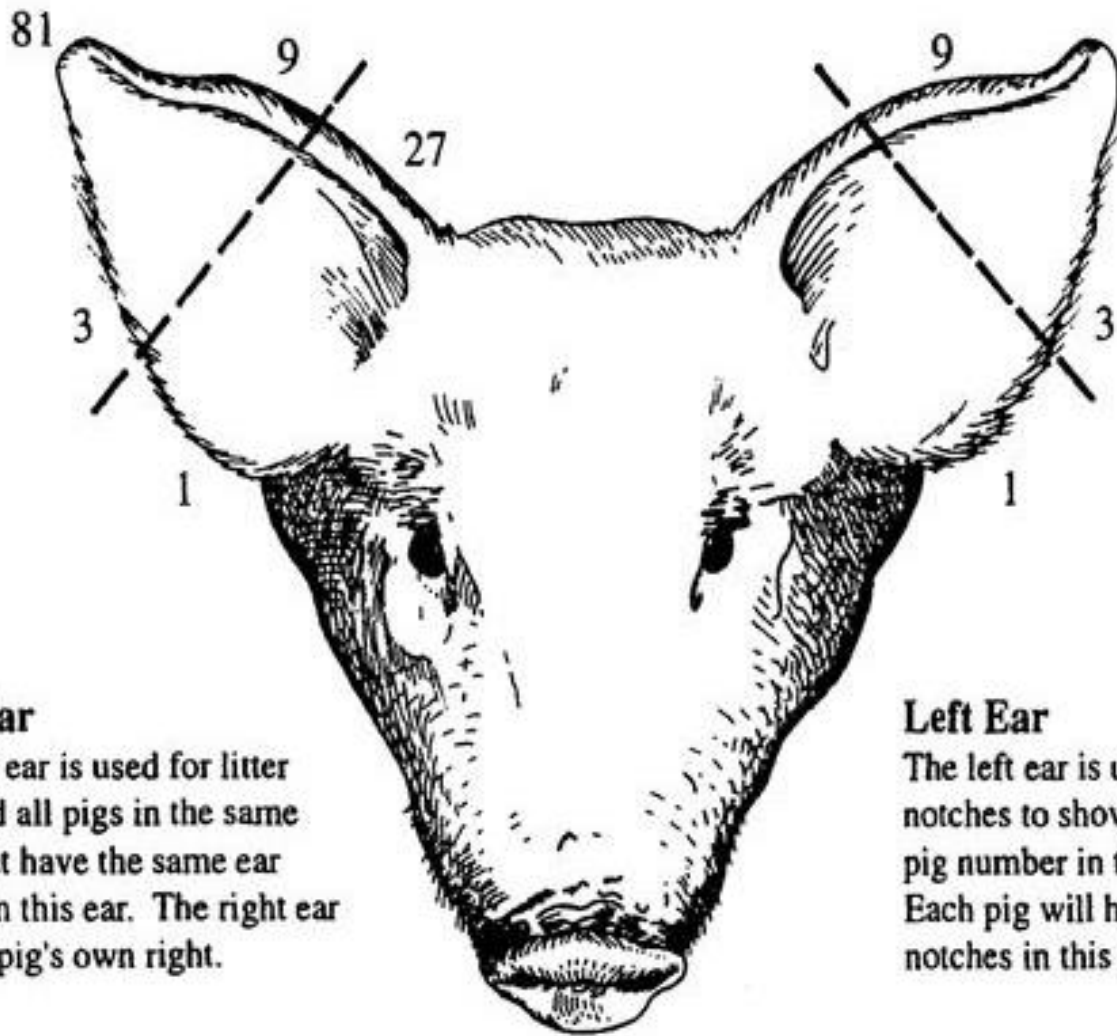
Procedure –

1. Separate one litter of newborn pigs from the sow.
2. Separate by sex if your ear notch numbering system or record keeping system requires this. Notch gilts first. Replacement gilts then have low numbers that are easier to read later.
3. Count the pigs and record the pig numbers for this litter on farrowing record forms.
4. Of the management skills done on newborn pigs, ear notching should be done last because more bleeding occurs. Grasp the pig firmly but gently taking care not to choke him. Put your thumb on one side of the head or face and the other four fingers on the opposite side. The pig may resist the operation slightly. (The pig's right and left ears are on the pig's right and left side). The notching system used will determine the location of the litter number and the individual pig number. The right ear shows the litter number and the left ear shows the individual number. Use an ear notcher that is designed for newborn pigs. Notching too shallowly can result in errors in reading the numbers. If the notch is too deep, the pig may lose or more easily tear off part of the ear. Do not put notches too close together. Leave at least 1/4 inch between notches.
5. Grasp the disinfected ear notcher. Check the record form for the number of the pig to be notched. Notch the ear with the litter number first.
6. Proceed to notch the pig number in the other ear.
7. After notching, double check the notch to make sure it is correct.
8. Release the animal.





# Universal Swine Ear Notching System



## Right Ear

The right ear is used for litter mark, and all pigs in the same litter must have the same ear notches in this ear. The right ear is on the pig's own right.

## Left Ear

The left ear is used for notches to show individual pig number in the litter. Each pig will have different notches in this ear.

# Diseases

Like all livestock species, pigs are susceptible to a wide range of diseases and parasites. A well planned herd health program will help prevent these but knowing the potential threat and how to recognize them is useful in making timely decisions. Details on several diseases are outlined below.

**Name:** Colibacillosis

**Cause:** Bacteria, toxin producing strain of *Escherichia coli*

**Major Symptoms:** Listlessness, diarrhea dehydration and emaciation, and rough hair coat are noticeable with infected swine. Death often occurs 12-24 hours after the onset of diarrhea.

**Prevention:** Ensure the pigs get an early feeding of colostrum. Good sanitary practices around new born pigs, as well as good sanitary conditions in the farrowing house. Ensure that the new born pigs are warm, clean, and dry. There are also vaccines for gilts and sows to ensure some antibodies in the colostrum.

**Name:** Transmissible Gastroenteritis (TGE)

**Cause:** Virus

**Major Symptoms:** In baby pigs roughing of the hair coat, shivering, vomiting, refusal to nurse, and extreme thirst are all signs that TGE maybe present.

**Prevention:** Avoid exposure to dogs, foxes, birds, or feeder pigs, all of which can transmit this virus, especially during the farrowing season.

**Name:** *Colstridium perfringens* Type C Enteritis

**Common Name:** enterotoxemia, hemorrhagic enteritis, and bloody scours

**Cause:** bacteria, *Colstridium perfringens*

**Major Symptoms:** Occurring during the first week of life the disease begins with diarrhea that leads to watery, yellow scours which may contain blood this generally leads into bloody feces. The pig will usually die within a few hours of the diarrhea starting.

**Prevention:** Injection of Type C antitoxin given to the new born pig as soon after birth as possible.

**Name:** Leptospirosis

**Cause:** Bacteria, *Leptospira interrogans*, subclassification, “serovars” pomona

**Major Symptoms:** Typically there are not any symptoms other than the infected sow will generally abort about 2-3 weeks before farrowing date. Confirmation of infection for the disease must be done in a laboratory.

**Prevention:** Good sanitation, and herd management are effective in preventing an out break as well as vaccination of the entire herd. Florida State Fair Swine Skillathon Manual 18

**Name:** Parvo virus

**Cause:** Virus

**Major Symptoms:** Gilts, sows, and boars are not affected by the parvo virus, only pigs. Sows pregnant with infected pigs will show signs of anestrus, false pregnancy, have small litters, or mummified feti. Sows may also have infrequent abortions.

**Prevention:** Gilts and Sows should be vaccinated with a dead vaccine at 6 weeks and 3 weeks prior to breeding.

**Name:** Swine influenza

**Cause:** Virus, Type A influenza

**Major Symptoms:** Symptoms that show signs of infection in the respiratory tract are, hard deep coughing, labored breathing, and a fever of around 108 degrees F. If the infection is in the reproduction tract then the sow may have small litters, abortion, or the embryos may be absorbed. Litters that survive farrowing, may have slow growth rates, or die during the suckling period, or after weaning.

**Prevention:** There is not a vaccine so it is recommended that you infect and recover a gilt prior to breeding, by exposing her to an infected sow.

**Name:** Erysipelas

**Cause:** Bacteria, *Erysipelothrix rhusiopathiae*

**Major Symptoms:** Light pink to dark purple diamond shaped splotches of discolored skin may appear on the infected swine. Temperature will increase to about 108 degrees F. Pregnant gilt or sow infected then they will abort.

**Prevention:** Vaccinate sows and gilts before breeding, and then a booster is suggested 4 weeks prior to farrowing.

**Name:** Porcine Reproductive and Respiratory Syndrome (PRRS)

**Cause:** Virus

**Major Symptoms:** In breeding females depression will occur along with a loss in appetite, and a sudden drastic increase in still born pigs. In nursery pigs labored, rapid breathing, poor performance, and other sicknesses will intensify. Finishing pigs infected with Erysipelas will go off their feed, have depression and a fever, and coughing. Infections in finishing pigs is less severe than nursery pigs.

**Prevention:** Vaccination will not give 100% protection but will help to lesson the disease. The use of a strict All-in All-out (AIAO) program will also help to reduce spreading between herds. A strict program of quarantine for all new replacements will help to ensure that there is not an introduction of the disease.

**Name:** Atrophic rhinitis

**Cause:** Bacteria, *Bordetella bronchiseptica*

**Major Symptoms:** Sneezing, sniffing, snorting, coughing, twisting their snouts, and a nasal infection.

**Prevention:** Good sanitation, and proper living environment as well as watching for contact of animals outside of the herd. Florida State Fair Swine Skillathon Manual 19



**Name:** Mycoplasma pneumonia

**Cause:** bacteria *M. hyopneumoniae*

**Major Symptoms:** Hacking cough. Mycoplasma adhere to cilia of the trachea and bronchial epithelium, causing them to slough which makes the pig prone to secondary infections.

**Prevention:** Reduce stress, avoid overcrowding and temperature extremes, provide good sanitation, nutrition and ventilation, vaccinate

**Name:** Circovirus

**Cause:** Virus

**Major Symptoms:** Wasting, slow growth, enlarged lymph nodes, jaundice, diarrhea, anemia.

**Prevention:** Vaccinate, reduce stress, good sanitation

**Name:** Pseudorabies

**Cause:** Virus

**Major Symptoms:** Signs of an out break include sudden death of pigs under 3 weeks of age. Fever, loss of appetite, labored breathing, trembling and incoordination of hind legs can be seen in an infected pig over the age of 3 weeks. In mature pigs there is a less severe fever, loss of appetite, abortion and other reproductive issues.

**Prevention:** Good sanitation of the environment and handlers aids in prevention of spreading the virus. Infected swine should be quarantined, after the infection has run its course they will be immune to the virus but should be treated like carriers of the virus.