

Swine

Level III and IV

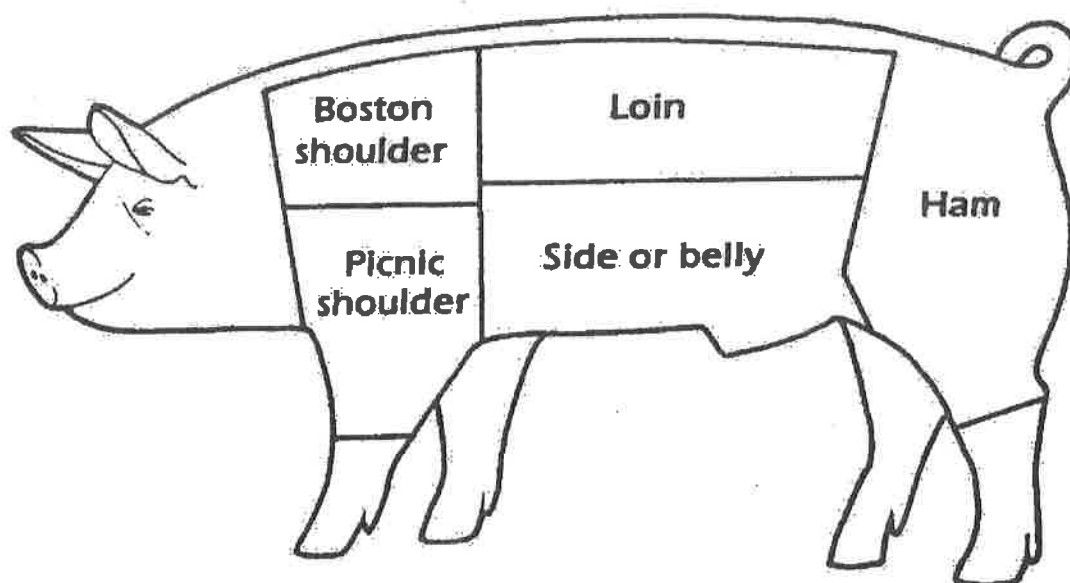
Study Guide

By: Ashley Borba

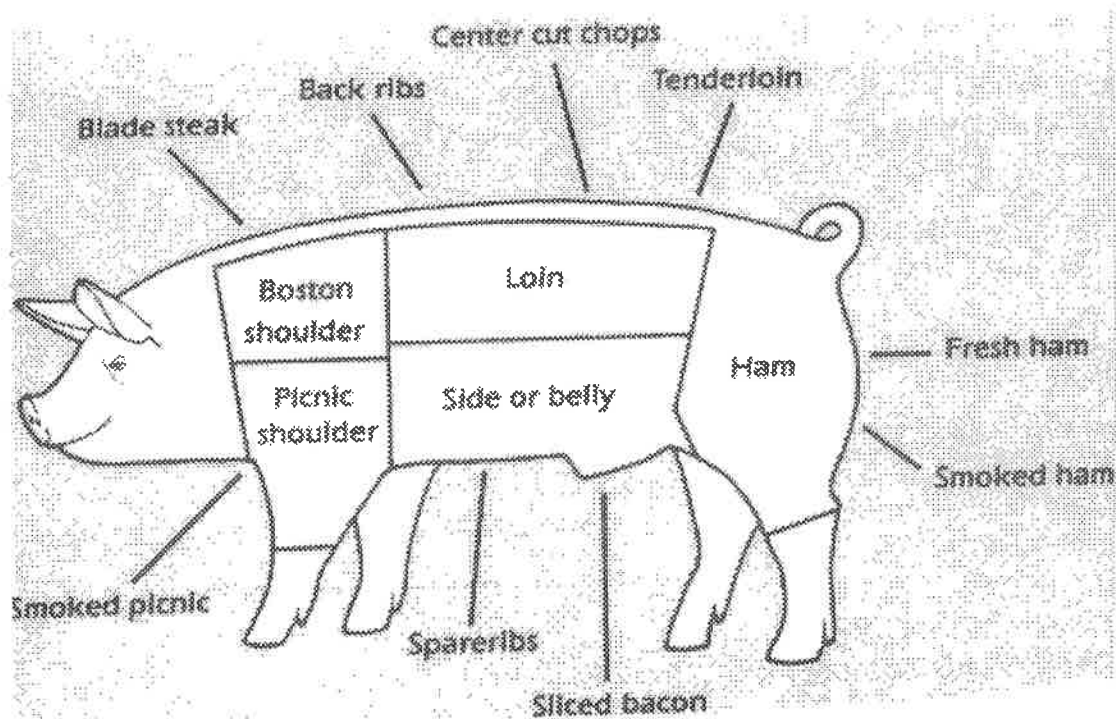
Wholesale Cuts & Retail Cuts

Wholesale cuts are large portions of meat that then become retail cuts when cut up.

Figure 10. Wholesale or primal cuts of pork.



Shown around the pig in the next picture are the retail cuts from the wholesale cuts.



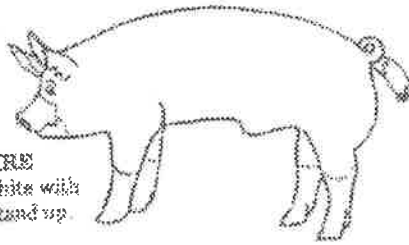
As you can see the Back ribs, Center cut chops, and Tenderloin are from the Loin, and the Loin is a wholesale cut. The same with the ham, Boston shoulder, Picnic shoulder, and the side or belly.

Breed ID

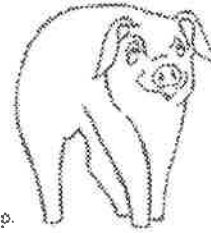
Fig breeds

Pork comes from various kinds of hogs. These different breeds of hogs came from different places in Europe and have special characteristics.

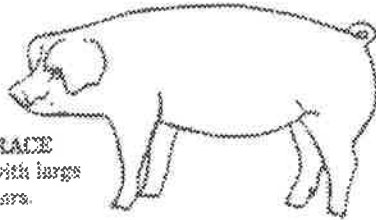
BERKSHIRE
Black & White with
ears that stand up.



DUROC
All reddish brown,
With ears that droop.



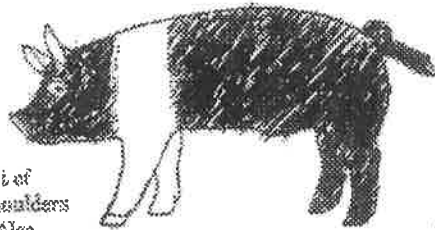
LANIRACE
White with large
floppy ears.



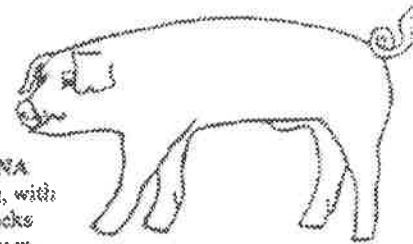
CHESTER WHITE
All white with ears
that droop.



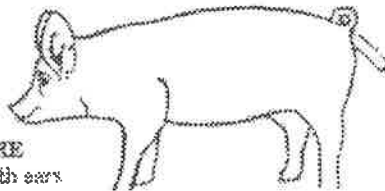
HAMPSHIRE
Black with a belt of
white around shoulders
and front legs. Also
has ears that stand up.



POLAND CHINA
Black and white, with
usually white socks
and ears that droop.



YORKSHIRE
All white with ears

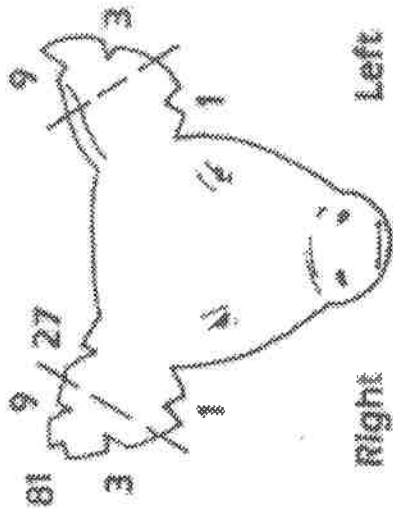


SPOTTED
Black and white
with spots.



Notching

When you read the notches on a hog the notches tell you the pigs litter number, and its individual number.



Right

Left



Example:
Pig number 14 from litter number 41
would be notched like this.

$$27 + 9 + 3 + 1 + 1 = 41$$

$$9 + 3 + 1 + 1 = 14$$

Carcass Terms

Cushion- the part underneath the ham

Shank- the part of the leg between the knee and the ankle in humans or the corresponding part in various other vertebrates

Stifle- the joint next above the hock in the hind leg of a quadruped

Back-the part of a lower animal (as a quadruped) corresponding to the human back

Loin Eye- determined by cutting the loin of a pork carcass crosswise and measuring the exposed muscle

Tenderloin- tender beef or pork strip from near the backbone

Foot- terminal part of a leg

Shoulder- part of the body where the arm joins the trunk

Jowl- lower jaw, cheek

Belly- abdomen

Sirloin- cut of meat

Loin- part of the body on each side of the spine between the hip and lower ribs

Flank- underside of the belly on swine

Diseases

Brucellosis: affects swine and humans, symptoms are abortion, swollen joints, and lameness swelling or atrophy of the testes in the male.

Erysipelas: an acute febrile disease associated with intense edematous local inflammation of the skin and subcutaneous tissues caused by a hemolytic streptococcus

Leptospirosis: affects swine, cattle, sheep, dogs, and humans. Main symptom in swine baby pigs are abortion, born weak, or dead. This disease is spread by inhaling urine mist or consuming contaminated feed and water.

Trichinosis: infestation with or disease caused by trichinae and marked especially by muscular pain, dyspnea, fever, and edema

Pneumonia: pneumonia is a lung inflammation or irritation. Signs of this are abnormal nasal discharge, persistent cough and labored breathing. Pigs also might show a decreased appetite, gauntness and dull appearances of the eyes and hair.

Atrophic Rhinitis: this is when a pig's snout gets twisted by infection of the turbinate bones. This diseases symptoms are sneezing and the same as Pneumonia.

Parasites

Ascarid :Large intestinal roundworm, most common parasite of swine. Larva causes serious lesions in lungs and throat in route to the small intestine where they mature

Kidney Worm: Thick bodied black and white worm that may reach 2 inches in length develops to maturity in the kidneys mature worms discharge eggs with the urine.

Lungworm: Thread like worm 1 to 1 1/2 inch in length found in bronchi or air passages of lungs. Life cycle includes earthworms as intermediate host.

Mange: any of various persistent contagious skin diseases marked especially by eczematous inflammation and loss of hair, affecting domestic animals or sometimes humans, and caused by a minute parasitic mite.

Whip Worm: a parasitic nematode worm (genus *Trichuris*) with a body that is thickened posteriorly and that is very long and slender anteriorly; especially : one (*T. trichiura*) of the human intestine

Nutrition

Amino Acids- Small compounds that are the building blocks of proteins

Carbohydrates- The most abundant energy source in swine diets

Corn- The most commonly fed grain to swine

Calcium- A macro mineral needed to build bones teeth & help with blood clotting

Vitamin D- Necessary for strong bones (known as sunshine vitamin)

Vitamin A- Needed for health of the eyes, nasal passages, & lungs

Fats- Provides 2 1/2 times as much energy as carbohydrates

Iron- Required for red blood cell formation

Lysine- Essential amino acid most likely to be deficient in swine rations

Minerals- Elements required to build bones and teeth

Oats- Not a good energy feed for pigs because of high fiber content

Phosphorus- A deficiency of this mineral results in slowed growth

Soybean Meal- Commonly used to balance the protein content of swine diets

Water- The most important part of a pig's diet

Zinc- A deficiency of this micro mineral results in a skin condition called Parakeratosis

Calculating

Average Daily Gain

Average daily gain measures only the rate of absolute increase in a pig's body weight. That increase in weight is due to increase in lean and/ or fat tissue. On the other hand; when the various carcass traits are measured, only the amounts of lean and fat tissue in the end product are evaluated. Carcass traits say nothing about the hog's growth rate up to slaughter time.

To find the Average daily gain you take the weight of the pig and divide it to the number of days on the feed.

Sample Problem-

Purchase weight of feeder pig- 80lbs.

Date of purchase- 3/1/04

Weight of pig at fair- 240lbs.

Date of final weight- 5/19/04

You subtract 80, your original weight, and subtract it from 240 to get 160. Then you count how many days you have had the hog. 80 then you divide 80 into 160 you get an average of 2lbs. a day.

Dressing percentage

Dressing percentage represents the amount of the hog's live weight that is present in the carcass form. To calculate dressing percentage, divide the chilled carcass weight by the live weight and multiply by 100.

Sample Problem

Final Weight 240lbs.

Carcass weight 168lbs.

Divide 240 into 168, which equals .7, multiply by 100, and the answer is 70%

Feed Efficiency

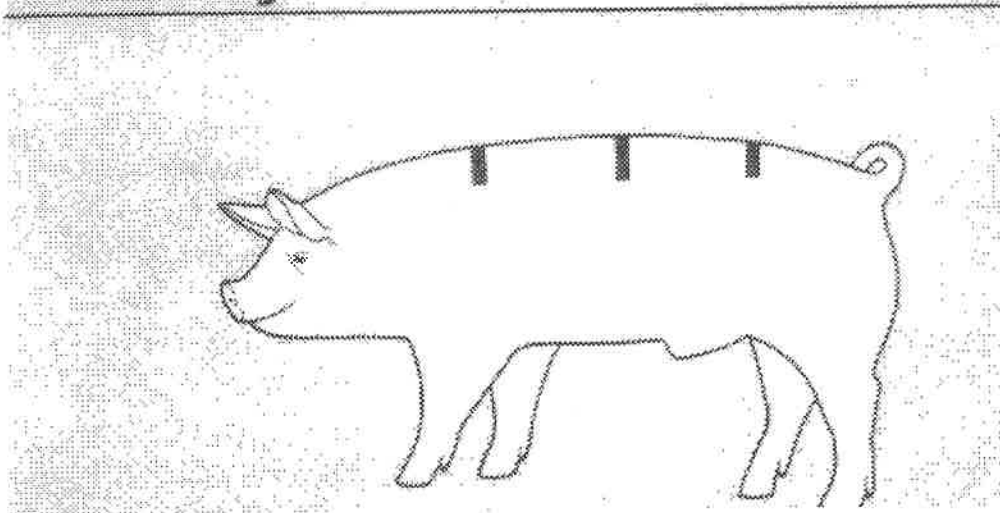
This measures the amount of feed a pig requires to gain 1 pound. A feed efficiency value (sometimes-called feed- to- gain ratio) of 3.6 means that the pig had to eat 3.6 pounds of feed to increase its body weight by 1 pound. A low feed efficiency value is more desirable.

Carcass Evaluation

Backfat Depth

Backfat depth is measured at three points on the hog's top line--opposite the first rib, last rib and last lumbar vertebra. The average of these measurements is the average Backfat depth

Figure 8. Sites for measuring average backfat depth on a live hog.



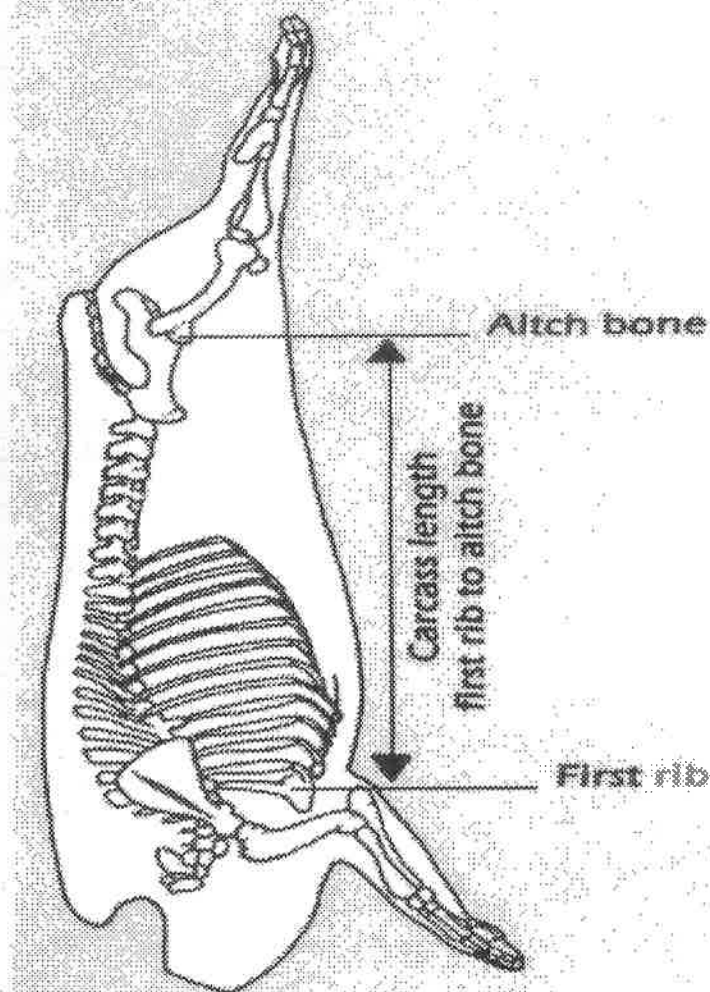
Loineye Area

This is a measure of the size of the major muscle that is found in the loin. Loineye area is determined by cutting the loin crosswise at the tenth muscle face. Loineye area is a good indicator of the total amount or degree of muscling in an animal.

Carcass length

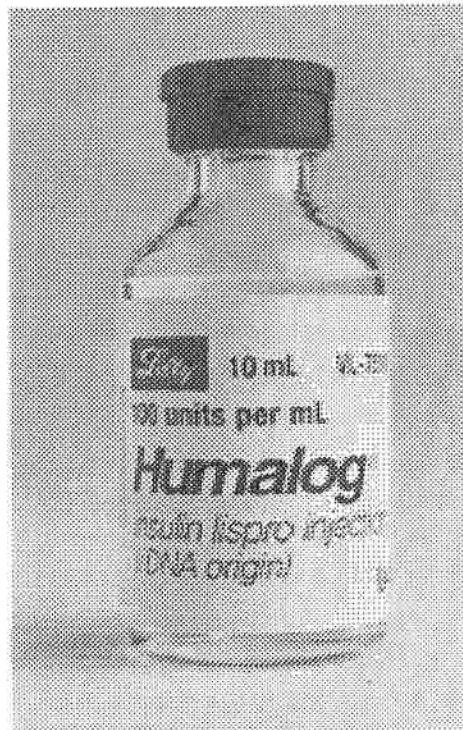
This is simply a measure of the live pig's body length, but this measurement is taken from the carcass. Carcass length is measured from the aitch bone to the first rib.

Figure 9. Measuring carcass length.

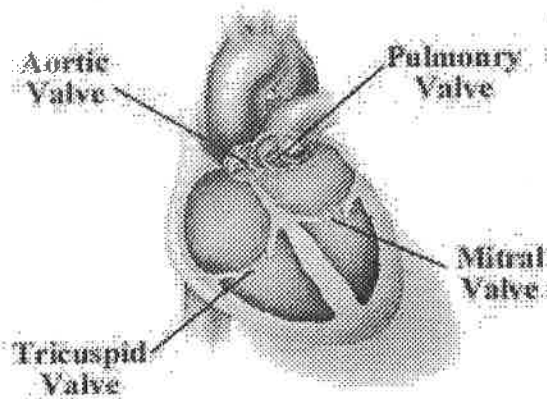


By Product Pictures

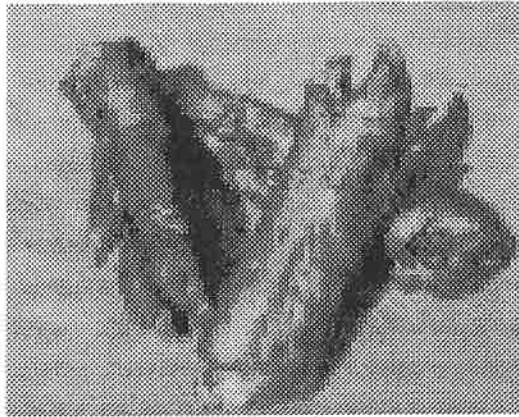
Insulin- Insulin is used by
diabetics



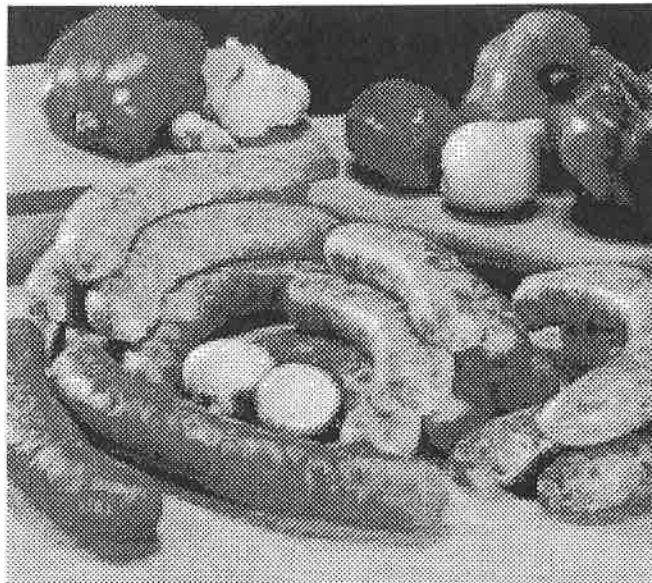
Heart Valves- heart valves
are apart of
swine by
products
but this is
a human
heart.



Pigs Feet- pigs feet are
used for
cooking
dishes



Sausage casings- sausage casings are used for making sausages



Definition Match

- | | |
|---------------------|--|
| 1. cushion__ | a. part of the body on each side of the spine between the hip and lower ribs |
| 2. shank__ | b. part of the body where the arm joins the trunk |
| 3. stifle__ | c. the most commonly fed grain to swine |
| 4. back__ | d. provide 2 1/2 times as much energy as carbohydrates |
| 5. loin eye__ | e. area of the major muscle in the loin |
| 6. tenderloin__ | f. essential amino acid most likely to be deficient in swine rations |
| 7. foot__ | g. side of something |
| 8. shoulder__ | h. not a good energy feed for pigs because of high fiber content |
| 9. jowl__ | i. terminal part of a leg |
| 10. belly__ | j. needed for health of the eyes, nasal passages& lungs |
| 11. sirloin__ | k. necessary for strong bones |
| 12. loin__ | l. abdomen |
| 13. flank__ | m. the most important part of a pig's diet |
| 14. amino acids__ | n. cut of meat |
| 15. carbohydrates__ | o. required for red blood cell formation |
| 16. corn__ | p. lower jaw, cheek |
| 17. calcium__ | q. elements required to build bones and teeth |
| 18. vitamin d__ | r. a micromineral needed to build bones, teeth& help with blood clotting |
| 19. vitamin a__ | s. tender beef or pork strip from near the backbone |
| 20. fats__ | t. a deficiency of this mineral results in slowed growth |
| 21. iron__ | u. the part of a lower animal (as a quadruped) corresponding to the human back |
| | v. commonly used to balance the protein content of swine diets |

22. lysine__

w. the part of the leg between the knee and the ankle in humans or the corresponding part in various other vertebrates

23. minerals__

x. the joint next above the hock in the hind leg of a quadruped

y. a deficiency of this micro mineral results in a skin condition called parakeratosis

24. oats__

z. The part underneath the ham

25. phosphorus__

aa. small compounds that are the building blocks of proteins

26. soybean meal__

bb. the most abundant energy source in swine diets

27. water__

28. zinc__

Disease& Parasite Match

- | | |
|--------------------|--|
| 1. Brucellosis__ | A. Large intestinal roundworm, most common parasite of swine. Larva causes serious lesions in lungs and throat in route to the small intestine where they mature |
| 2. Erysipelas__ | B. affects swine, cattle, sheep, dogs, and humans. Main symptom in swine baby pigs are abortion, born weak, or dead. This disease is spread by inhaling urine mist or consuming contaminated feed and water. |
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| 6. Kidney worm__ | F. an acute febrile disease associated with intense edematous local inflammation of the skin and subcutaneous tissues caused by a hemolytic streptococcus |
| 7. Lung worm__ | G. any of various nematodes that infest the lungs and air passages of mammals |
| 8. Mange__ | H. a parasitic nematode worm (genus Trichuris) with a body that is thickened posteriorly and that is very long and slender anteriorly; especially : one (T. trichiura) of the human |

intestine

9. Whip worm__

I. Thick bodied black and white worm that may reach 2 inches in length develops to maturity in the kidneys mature worms discharge eggs with the urine.

10. Pneumonia__

J. This is a lung inflammation or irritation.

Signs of this are abnormal nasal discharge, persistent cough and labored breathing. Pigs also might show a decreased appetite, gauntness and dull appearances of the eyes and hair.

11. Atrophic Rhinitis__

K. this is when a pig's snout gets twisted by infection of the turbinate bones. This diseases symptoms are sneezing and the same as Pneumonia.