Swine
Level III and IV
Study Guide

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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.**

![Diagram of pork cuts](image-url)
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.
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.

**LANDRACE**
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.

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

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
   z. The part underneath the ham
   aa. small compounds that are the building blocks of proteins

24. oats—
25. phosphorus—
   bb. the most abundant energy source in swine diets

26. soybean meal—
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.

3. Leptospirosis
C. 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.

4. Trichinosis
D. affects swine and humans, sympotms are abortion, swollen joints, and lameness swelling or atrophy of the testes in the male.

5. Ascarid
E. infestation with or disease caused by trichinae and marked especially by muscular pain, dyspnea, fever, and edema.

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 21
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.