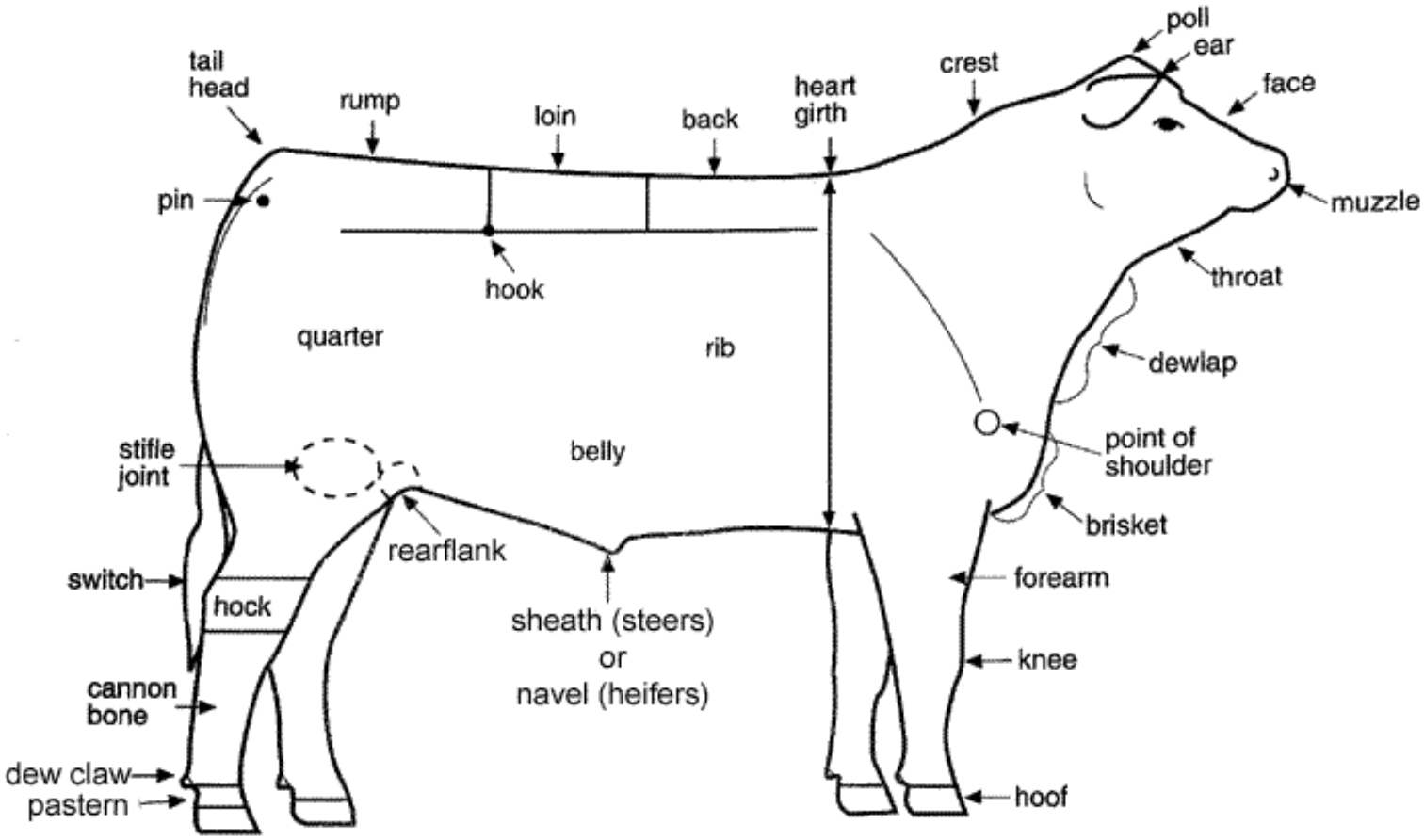
Columbiana County Steer Committee

Study Packet

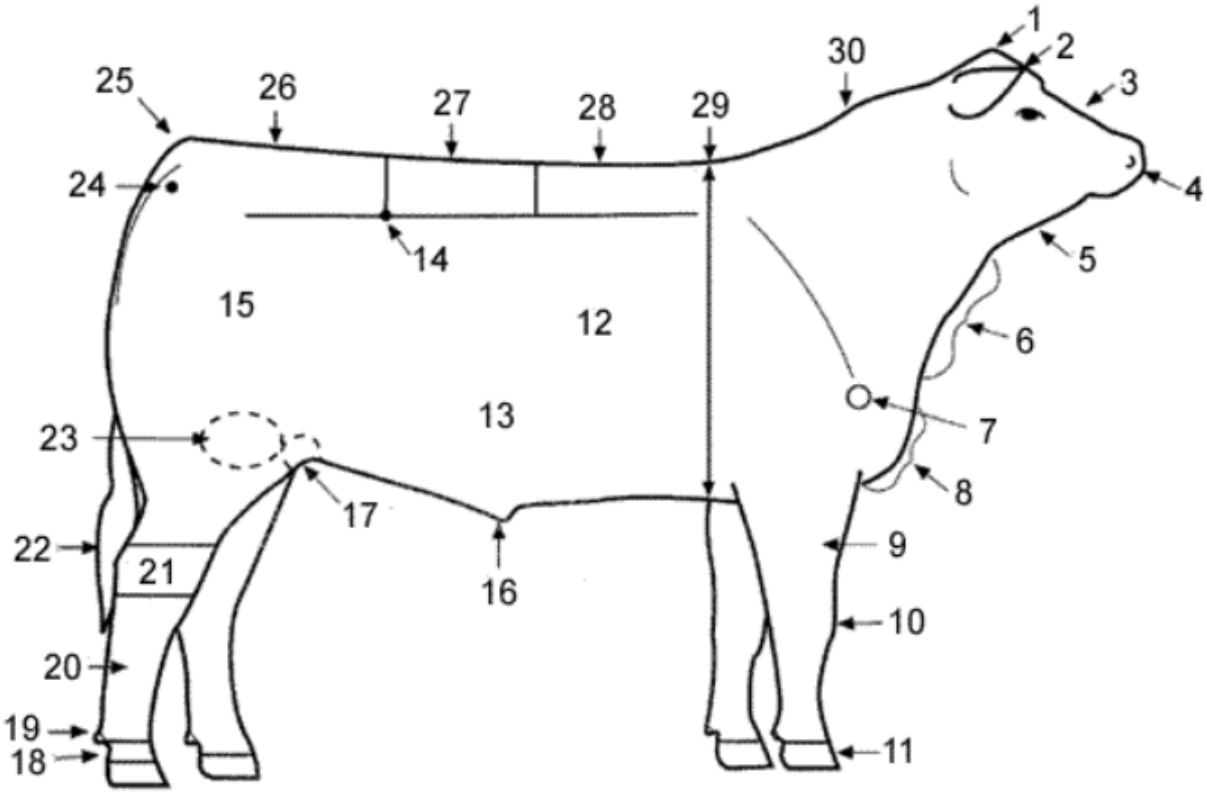
Skillathon

All Skillathon parts and Questions come from the Beef Reference Manual.

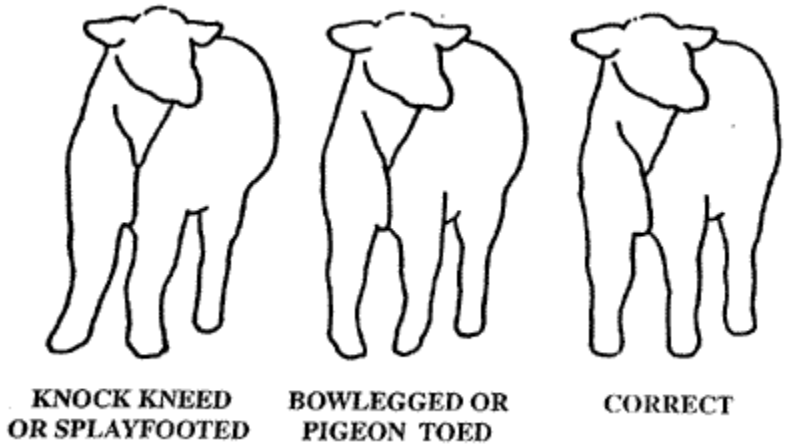
Be able to Label Parts of a Beef Animal



Test Yourself:

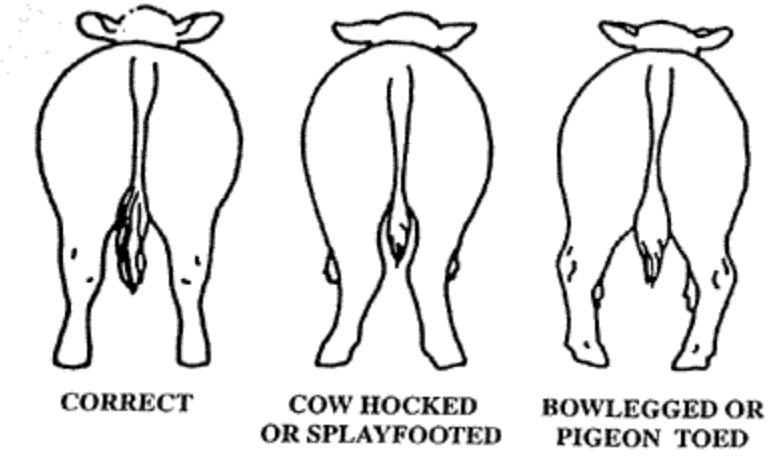


Feet and Leg Structures

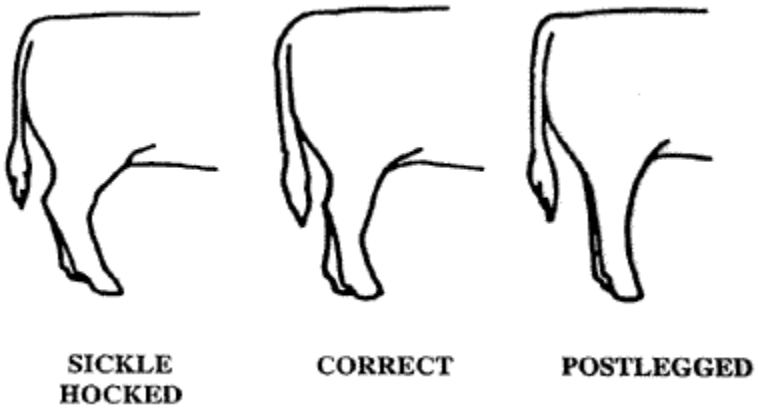


Splayfooted or Knock Kneed - When viewed from the front, the knees are close together and the feet toe out away from each other. This problem is often seen in extremely light-muscled, narrow-chested cattle when the legs are naturally set too close together.

Pigeon Toed or Bowlegged - When viewed from the front or rear, the knees set too far out, causing the toes to turn inward.

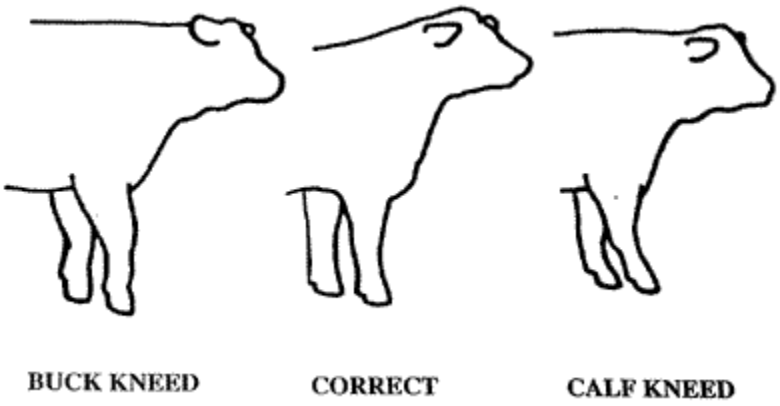


Cow Hocked - When viewing the hind legs from the rear, the hocks are turned inward or are placed too close together, causing the toes to turn outward.



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 himself. Often these calves will droop excessively from hooks to pins.

Postlegged - The hock has too little angle or set. The calf is too straight through the joint, resulting in very stiff, restricted movement because of the lack of flexibility. More cattle become unsound because of being postlegged than sickle hocked.



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 the legs appear slightly bent. This is usually seen in cattle that are too straight in the shoulder.

Calf Kneed - This is the other extreme, the opposite of buck kneed, where the calf stands "back at the knees" when viewed from the side.

FEED NUTRIENT CATEGORIES Chapter 7 in Reference

Nutrients are elements in feed that are used by the animal for maintenance, growth, and production. Some are needed in large amounts while others are needed in small amounts.

In general, nutrients are divided into five categories: water, protein, energy (carbohydrates and fats), minerals and vitamins.

WATER

Water is the most essential nutrient and the nutrient to which livestock should always have access. A mature animal's body is about 75% water. Water comprises most of the blood. Blood carries nutrients to cells throughout the body and also transports waste products away. Water is necessary for certain chemical reactions to occur. Water acts as the body's cooling system and helps regulate body heat. Water also acts as a lubricant for the body's organs. Any living thing can live longer without food than without water.

PROTEINS

Proteins are complex chemical substances from which the body tissues are built. Each protein is comprised of smaller units called amino acids. Each species of livestock has the ability within their body to produce some amino acids. These compounds are called non-essential amino acids. Other necessary amino acids cannot be manufactured by the animal's body and are called essential amino acids. Essential amino acids must be supplied through the feed. Proteins can be used as energy, too. When feed contains too much protein, the extra protein can be used as energy. Soybean meal and fish meal are high in protein. Corn and barley are lower in protein. Proteins are used by the animal to produce muscle, bone, blood, skin, fur, hair, wool, hooves, and horns. Examples of protein feeds include: cottonseed meal, soybean meal, linseed meal, corn gluten meal, distillers grains, brewers grain, and meat meal. Non-protein nitrogen sources such as urea can be used by ruminant animals to make protein.

ENERGY (CARBOHYDRATES AND FATS)

Carbohydrates and fats are used as fuel to supply energy. The main use of energy is to allow chemical reactions to occur, resulting in conversion of feed to body tissues such as meat. Energy is constantly needed by the body. It is the "body fuel" which is used to maintain body temperature and to produce body movement. Energy nutrients that are not used are stored as fat until needed. Sugar, starch, and fiber are carbohydrates. Grains contain a lot of carbohydrates. Corn oil and tallow are fats. Fat furnishes at least two and one-half times more energy than an equal amount of carbohydrate.

MINERALS

Minerals are used to build bones and teeth and in chemical reactions necessary for many life processes. For example, calcium is needed for bone formation. Phosphorus is involved in bone growth and maintenance of good appetite and water consumption. Minerals required in very small amounts are called trace or micro minerals. These are generally supplied by using a mineral or mineral/vitamin pre-mix. Some examples include copper, zinc, and iron. Larger amounts of required minerals are macro minerals. These include calcium, phosphorus, sodium and chloride. These compounds may be included in a mineral pre-mix or purchased separately. Examples of mineral supplements are bone meal, defluorinated phosphate, dicalcium phosphate, salt, trace mineralized salt, oyster shells, and limestone.

VITAMINS

Vitamins are compounds which help the body absorb and use other nutrients. Vitamins are essential for growth and are needed in small amounts by the animal. There are two types of vitamins: fat-soluble (A, D, E and K) and water soluble (B complex and C). Some animals can ;make their own vitamins within their bodies, other species cannot. Because of this fact, a steer should not be fed the same vitamin pre-mix as a pig. Vitamins are generally supplied in animal feed in the form of a supplement or provided by consumption of green pasture.

Understanding a Feed Tag (Chapter 7 in Reference)

A commercial feed in the United States is required to carry the following information:

Product name and brand name, if any.

Medication information, if used. There are many different medications available depending upon the class of animal being fed.

Purpose Statement: Since some product names are ambiguous on what animals the feed may be fed to, a purpose statement states what animal and what feeding situation the feed is designed for (i.e., For Holsteins fed in confinement for slaughter).

Guaranteed Analysis: There are three basic nutrients that must be on all labels: a) If the product is intended to supply protein, minimum crude protein. If a source of non-protein nitrogen is used, the maximum amount of "equivalent protein from non-protein nitrogen" needs to appear. b) minimum crude fat, and c) maximum crude fiber. If the total minerals added to the feed exceed 6.5%, additional guarantees are required for beef cattle labels. These guarantees are minimum and maximum calcium, minimum phosphorus, minimum Vitamin A if added, and if salt is added, minimum and maximum salt. Other minerals and vitamins may be guaranteed. Mineral supplements must state (when these nutrients are added) minimum/maximum calcium (Ca), minimum phosphorus (P), minimum/maximum added salt (NaCl), minimum magnesium (Mg), minimum potassium (K), minimum zinc (Zn), minimum copper (Cu), minimum selenium (Se), and minimum Vitamin A.

Non-protein nitrogen (NPN) sources generally found in commercial feeds are urea, monoammonium phosphate, ammonium sulfate and ammonium chloride. Non-protein nitrogen is highly soluble, converts rapidly to ammonia in the rumen and is utilized by ruminal microbes to produce microbial protein which the animal then uses. To convert NPN to "crude protein" multiply the amount of nitrogen by 6.25. Different sources of NPN may be used in feeds for a variety of reasons. Urea is used as a low cost source of crude protein. Urea containing feeds have a lower price than feeds containing "all natural" proteins. Monoammonium phosphate is a source of phosphorus often found in mineral supplements. Ammonium sulfate and ammonium chloride are used to help prevent urinary calculi (water belly) in wethers and steers. Ammonium sulfate is also used as a source of sulfur for high urea diets.

Ingredient Statement: The major ingredients of the feed may be listed specifically (i.e., corn, soybean meal, alfalfa) or may be represented by collective terms (grain products, plant protein products, forage products, etc.) Collective terms refer to a group of ingredients used for a common purpose. Collective terms makes it easier to "best-cost" formulations (using the best combination of ingredients to meet a specific nutrient profile for the feed at the lowest possible cost) without reprinting labels each time an ingredient is changed. An abbreviated list of collective terms is in Table 1. The order in which ingredients appear is not regulated, but generally is from the greatest amount to the least amount.

Since August 1997, United States feed companies have been prohibited from feeding ruminant derived meat and bone meal back to ruminants, including cattle and sheep. This rule was put I place to prevent ny chance of introducing Bovine Spongiform Encephalopathy (BSE) into the United States. Any feed containing ruminant meat and bone meal must be labeled "do not feed to cattle or other ruminants." If "animal protein products" appears on the tag of the commercial feed you are using, don't panic. Ask your feed company to explain the source of "animal protein products." This term includes porcine meat and bone meal (legal to feed to ruminants), hydrolyzed feather meal, fish meal and blood meal (no BSE concern). Animal fat poses no threat from BSE.

Cautions, Warnings: This section gives any precautionary warnings such as with medicated feeds like Lasalocid (Bovatec): "The safety of lasalocid in unapproved species has not been established." Another commonly seen warning is "Caution: Do Not Feed to Sheep" found on feeds with high levels of supplementary copper and "Caution: Use as Directed" seen on feeds with high levels of urea. Feeding or Mixing Directions: Directions are expected to be fullly explanatory. This section should indicate minimum and maximum amounts to feed. Amounts may be in absolute weights (i.e., feed 0.1 to 2 lb.), expressed as the amount of feed on a body weight basis (i.e., 1 to 1.5% body weight would be 10 to 15 lb. for a 1000 lb. bull) or the amount an animal is expected to consume when the product is fed free choice (i.e., optimum intake is 2-4 oz/head/day). It should also indicate if other feeds should be used in conjunction with this feed. If special care should be used in mixing this product, the directions would indicate for instance "mix thoroughly with grain and/or roughage prior to use.

Net Weight of Unit: Net weight refers to bag weight (50 lb) or bulk amount (2000 LB).

Manufacturers or Distributors Name: The name and address of the company selling the feed must be on the tag.

PROVIDER 15% PELLET

For Mature Cattle, Horses, Goats & Sheep

GUARANTEED ANALYSIS

Crude Protein	not less than	15.0	%
Crude Fat	not less than	2.5	%
Crude Fiber	not more than	13.0	%
ADF	not more than	19.0	%
Calcium	not less than	1.0	%
Calcium	not more than	1.5	%
Phosphorus	not less than	0.5	%
Salt	not less than	0.5	%
Salt	not more than	1.0	%
Magnesium	not less than	0.2	%
Potassium	not less than	0.6	%
Selenium	not less than	1.0	ppm
Selenium	not more than	1.15	ppm
Zinc	not less than	240	ppm
Vitamin A	not less than	5,250	IU/lb
Vitamin D	not less than	525	IU/lb
Vitamin E	not less than	35	IU/lb

INGREDIENTS

Processed Grain Byproducts, Roughage Products, Grain Screenings, Calcium Carbonate, Molasses Products, Salt, Sodium Selenite, Zinc Amino Acid Complex, Manganese Sulfate, Zinc Sulfate, Vitamin E Supplement, Yucca Schidigera Extract, Mineral Oil, Niacin Supplement, Calcium Pantothenate, Vitamin B-12 Supplement, Riboflavin Supplement, Sodium Molybdate, Vitamin A Supplement, Ethylenediamine Dihydriodide, Menadione Sodium Bisulfite Complex (source of vitamin K activity), Cobalt Carbonate, Vitamin D3 Supplement.

FEEDING DIRECTIONS

Feed to cattle, horses, goats, or sheep as a supplement to forage. Start by feeding small amounts daily and gradually increasing to desired amount. Provide high quality forage and access to clean water. Do not feed old, moldy, or insect infested feed as it may cause illness, abortion, or death. Store in a cool, dry place.

"Manufactured in the Pacific Northwest."

4451-CA

Manufactured By:
CHS Inc.
Sioux Falls, SD 57107
www.chsinc.com

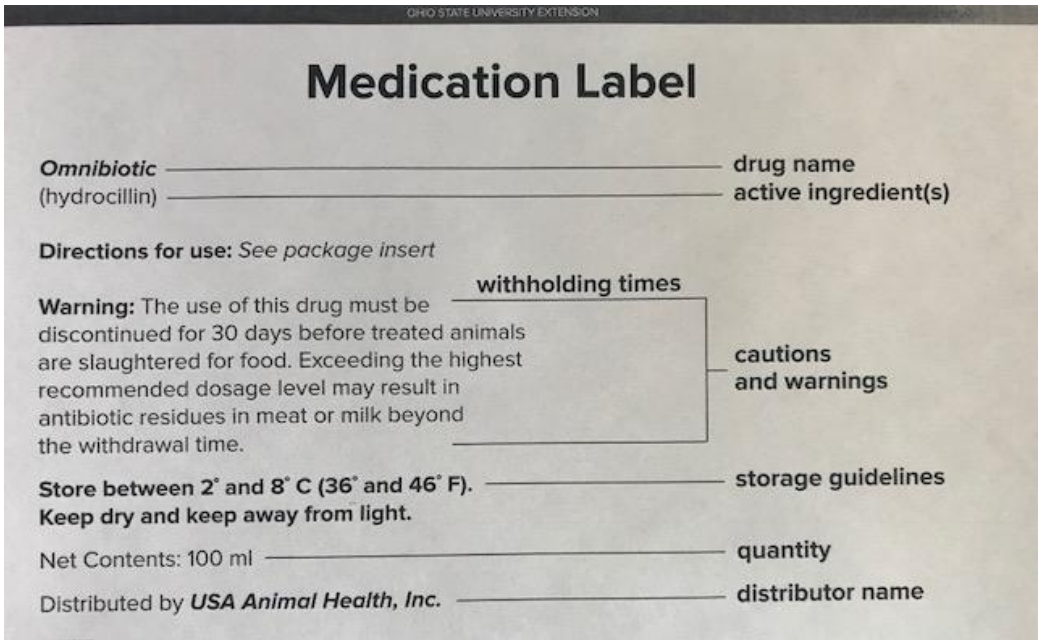
Bulk or 50 lbs (22.68 kg) Net Weight

Feed Samples: pages CP-8 – CP13 in reference manual

Be able to identify multiple samples:

Whole Wheat	Trace Minerals	Dicalcium Phosphate
Whole Corn	Salt	Complete Pelleted Feeds
Whole Oats	Molasses	Cotton Seed meal
Cracked Corn	Whole Bran	Cotton Seed
Steamed Rolled Oats	Alfalfa Pellets	Corn Gluten Feed
Soybean meal	Beet Pulp	Urea
Calcium Carbonate (Lime)	Rolled Barley	Blood Meal

<u>Quality Assurance: Chapter 12 in Reference Book:</u> Be able to understand and label a medication insert, medication label, understand where Injections are given, and be able to follow and calculate withdrawal times.



OHIO STATE UNIVERSITY EXTENSION

Medication Label

Omnibiotic — drug name
(hydrocillin) — active ingredient(s)

Directions for use: *See package insert*

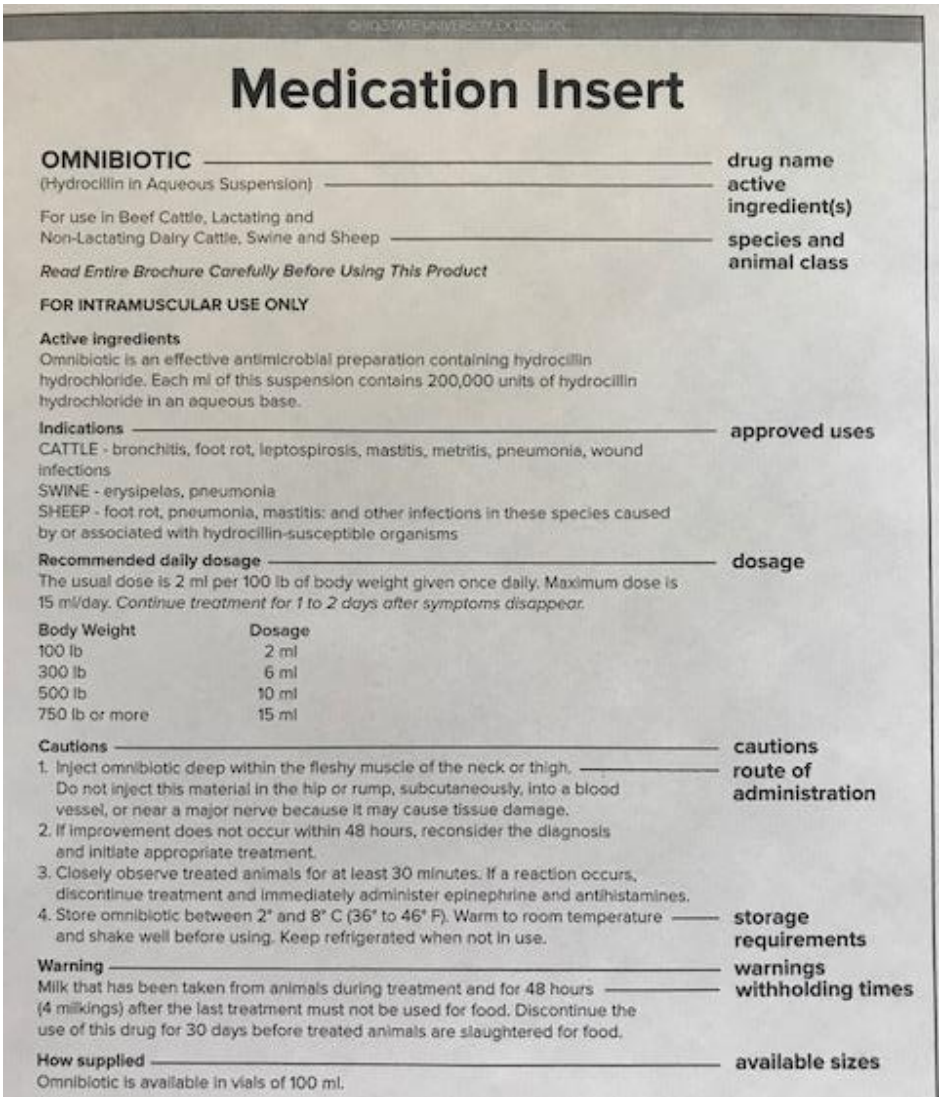
withholding times

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. — cautions and warnings

Store between 2° and 8° C (36° and 46° F). Keep dry and keep away from light. — storage guidelines

Net Contents: 100 ml — quantity

Distributed by ***USA Animal Health, Inc.*** — distributor name



OHIO STATE UNIVERSITY EXTENSION

Medication Insert

OMNIBIOTIC — drug name
(Hydrocillin in Aqueous Suspension) — active ingredient(s)

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

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 — approved uses
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 — dosage
The usual dose is 2 ml per 100 lb of body weight given once daily. Maximum dose is 15 ml/day. *Continue treatment for 1 to 2 days after symptoms disappear.*

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

Cautions — cautions
1. Inject omnibiotic deep within the fleshy muscle of the neck or thigh. — route of administration
   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, reconsider the diagnosis and initiate appropriate treatment.
3. Closely observe treated animals for at least 30 minutes. If a reaction occurs, discontinue treatment and immediately administer epinephrine and antihistamines.
4. Store omnibiotic between 2° and 8° C (36° to 46° F). Warm to room temperature and shake well before using. Keep refrigerated when not in use. — storage requirements

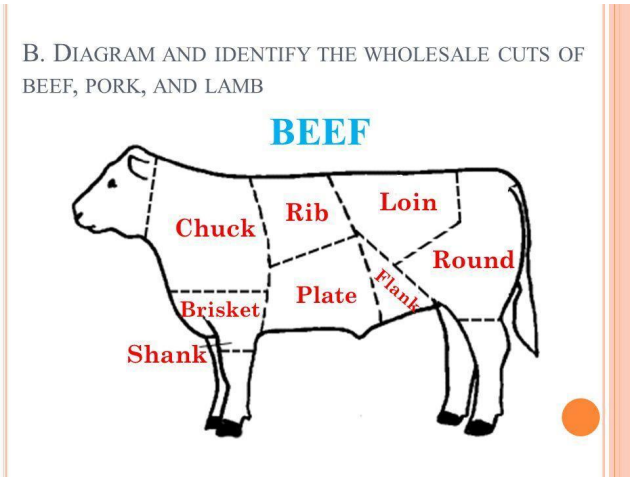
Warning — warnings
Milk that has been taken from animals during treatment and for 48 hours (4 milkings) after the last treatment must not be used for food. Discontinue the use of this drug for 30 days before treated animals are slaughtered for food. — withholding times

How supplied — available sizes
Omnibiotic is available in vials of 100 ml.

Medication Label	Medication Insert
Active Ingredient	Active Ingredient
Cautions and Warnings	Approved Uses
Distributor Name	Available Sizes
Drug Name	Cautions
Quantity	Dosage
Storage Guidelines	Drug Name
Withholding times	Route of Administration
	Species and Animal Class
	Storage Requirement
	Warnings
	Withholding

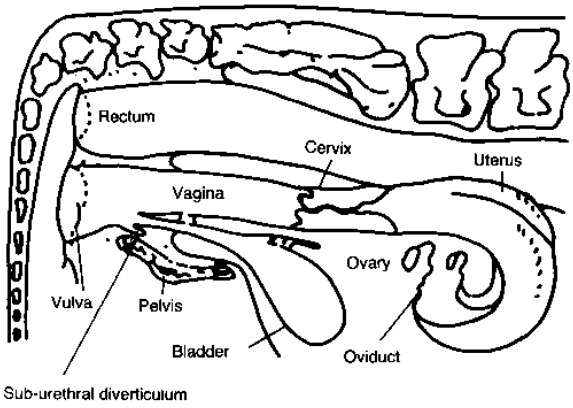
<u>Cuts of Meat</u>: Reference Book Page CP 14- CP-16:

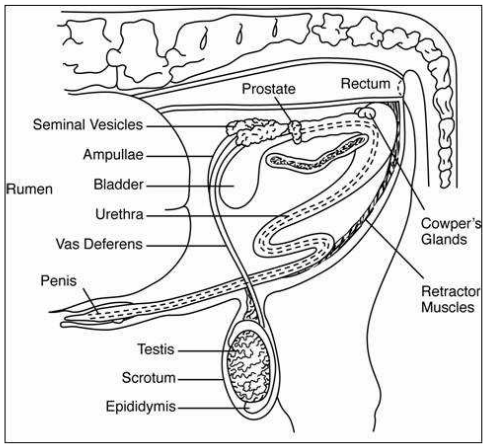
--Be able to label cuts of meat.



Animal Reproduction:

- **Be able to label the reproduction parts of Female and Male Cattle.**





Animal Breeds: Know the major Breeds of Beef cattle. BE able to label the correct breeds and match the breed characteristic that go with each one.

Angus
Brahman
Charolais
Chianina
Gelbvieh
Hereford
Limousin
Polled Hereford
Santa Gertrudis
Shorthorn
Simmental
Texas Longhorn