

Virginia 4-H Dairy Quiz Bowl Team Study Materials
Section 12. General Anatomy and Physiology

- The liver is the first organ to receive blood from the small intestine.
- The pancreas secretes digestive enzymes into the small intestine.
- Urine is produced by the kidney. It is stored in the bladder.
- Ways that a dairy cow excretes or loses water:
 - Breathing
 - Feces
 - Milk
 - Sweat
 - Urine
- The esophagus is the tube that connects the mouth to the rumen.
- A cow has no upper front teeth. A mature dairy cow has 32 teeth.
- Approximately 400 pounds of blood are pumped through the udder to produce one pound of milk.
- Physiological functions of water in the body include:
 - A medium to transport nutrients
 - To carry waste products to the point of excretion
 - To cool the body at high environmental temperatures
 - Functions as a universal solvent
 - Serves as a fluid to lubricate joints
 - Serves as a fluid base for milk
 - Serves as a substrate for metabolic reaction
- The three main udder supports are:
 - Skin
 - Median suspensory ligament
 - Lateral suspensory ligament
- The common name for the subcutaneous abdominal veins is milk veins.
- The four basic tissues that make up a cow's body are:
 - Connective
 - Epithelium
 - Muscle
 - Nerve
- Organ systems found in the body:
 - Circulatory
 - Respiratory
 - Integumentary
 - Nervous
 - Digestive
 - Endocrine
 - Reproductive
 - Skeletal
 - Muscular
- The two parts of a cow's anatomy that may be twisted to one side and called "wry" are the face and tail.
- In a newborn calf, the reticulum and rumen are not yet fully developed.
- The primary digestive process in the rumen is fermentation.
- Fats are broken down in the small intestine of the dairy cow.
- The three parts of the small intestine are the ileum, jejunum, and duodenum.
- The large intestine is the part of the digestive tract that is responsible for resorbing water.
- The major artery supplying blood to the udder is the external pudic artery.
- The mitochondrion is known as the powerhouse of the cell because all energy is produced in this cell part.
- Insulin is a hormone produced by the pancreas that promotes cell growth and division.
- The major buffer for maintaining optimum rumen pH is saliva. The mature dairy cow produces 50 to 80 quarts of saliva per day.
- The broad ligament is the structure that holds the uterus and ovaries in their proper position.
- Dairy cattle have 13 pairs of ribs.
- The parathyroid gland is responsible for mobilizing calcium from the bone.
- Erythrocytes are more commonly known as red blood cells. They are the only cells that have no nucleus.
- Ligaments connect one bone to another bone. Tendons connect a muscle to a bone.