

**Vaccines & Antibiotics Unit Objectives:** By the end of this unit, students will be able to...

- Summarize the mechanisms and strategies that comprise each of the following: a. continual forms of nonspecific immunity; b. selective forms of nonspecific immunity; c. specific immunity.
- Compare and contrast the properties of the three kinds of continual nonspecific immunity, including: a. mechanical; b. physical; c. chemical.
- Summarize the identifying characteristics of all forms of selective nonspecific immunity, including: a. Phagocytosis b. Inflammation c. Pyrexia d. Protective proteins e. NK Cells
- Summarize the function of interferons and complement proteins.
- Summarize how specific immunity differs from all forms of nonspecific immunity.
- Explain how the body uses antigens and antibodies to fight a disease.
- Identify the key traits that comprise each of the following: a. Genetic specific immunity b. Acquired specific immunity c. Nonspecific immunity
- Summarize the difference between active acquired immunity and passive acquired immunity.
- Explain how a vaccination works to reduce the rate of contraction of a disease.
- Identify the key characteristics of each of the following kinds of vaccinations: a. Live b. Killed/Inactivated c. Toxoid d. Biosynthetic
- Define colostrum, and explain why it is a valuable part of a production animal operation.
- Summarize why adult vaccination is necessary for herd health using examples.
- Define VCPR and explain why it is necessary for an animal operation.
- Compare and contrast the function and properties of antibiotics and vaccines.
- Describe the most common methods by which an antibiotic destroys bacteria.
- Describe the most common bacterial mechanisms of antibiotic resistance.
- Summarize the difference between Inherent (natural) Bacterial Resistance and Acquired Resistance.