

# Introduction to Animal Science

## State Standards

### Agribusiness Systems

- ABS.05.01.02.a Name and explain the impact of external economic factors on an AFNR business.
- ABS.05.01.02.b Recognize how changes in prices of inputs and/or outputs influence the financial statements of an AFNR business.
- ABS.06.01.01.a Investigate the meaning and methods of marketing in AFNR as related to agricultural commodities, products and services ant to agricultural goods in domestic and international markets.
- ABS.06.01.02.a Described functions in agricultural marketing.

### Animal Systems

- AS.02.02.01.a Identify basic characteristics of animal cells, tissues, organs and body systems.
- AS.02.02.02.a Diagram a typical animal cell and identify the organelles.
- AS.02.02.03.a Describe the basic functions of animal cells in growth and reproduction.
- AS.02.02.03.b Detail the processes of meiosis and mitosis in animal growth, development, health and reproduction.
- AS.03.01.01.a Explain methods of determining animal health and disorders.
- AS.03.01.01.b Perform simple health-check evaluations on animals.
- AS.03.01.02.a Identify common diseases, parasites and physiological disorders that affect animals.
- AS.03.01.02.b Diagnose illnesses and disorders of animal based on symptoms and problems caused by diseases, parasites and physiological disorders.
- AS.03.01.03.a Explain characteristics of causative agents and vectors of diseases and disorders in animals.
- AS.03.01.03.b Evaluate preventative measures for controlling and limiting the spread of diseases, parasites and disorders among animals.
- AS.03.01.04.a Explain the clinical significance of common consideration in veterinary treatments, such as aseptic techniques.
- AS.03.01.04.b Prepare animals, facilities and equipment for surgical and nonsurgical veterinary treatments and procedures.
- AS.03.01.05.a Identify and describe zoonotic diseases.
- AS.04.01.01.a Compare and contrast common types of feedstuffs and the roles they play in the diets of animals.
- AS.04.01.02.a Explain the importance of a balanced ration for animals.
- AS.04.01.02.b Appraise the adequacy of feed rations using data from the analysis of feed stuffs, animal requirements and performance.
- AS.04.02.01.a Explain the purpose and benefits of feed additives and growth promotants in animal production.
- AS.04.02.01.b Discuss how feed additives and growth promotants are administered and the precautions that should be taken.
- AS.05.01.01.a Explain the male and female reproductive organs of the major animal species.

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- AS.05.01.01.b Describe the functions of major organs in the male and female reproductive systems.
- AS.05.02.01.a Explain how age, size, life cycle, maturity level and health status affect the reproductive efficiency of male and female animals.
- AS.05.02.02.a Discuss the importance of efficient and economic reproduction in animals.
- AS.05.03.01.a Explain genetic inheritance in agricultural animals.
- AS.05.03.01.b Explain the advantages of using genetically superior animals in the production of animals and animal products.
- AS.05.03.02.a Define natural and artificial breeding methods.
- AS.05.03.02.b Explain the processes of natural and artificial breeding methods.
- AS.05.03.03.a Explain the use of quantitative breeding values (e.g. EPDs) in the selection of genetically superior breeding stock.
- AS.05.03.03.b Compare and contrast quantitative breeding value differences between genetically superior animals and animals of average genetic value.
- AS.05.03.04.a Explain the advantages of major reproductive management practices, including estrous synchronization, superovulation, flushing and embryo transfer.
- AS.05.03.04.b Explain the processes of major reproductive management practices, including estrous synchronization, superovulation, flushing and embryo transfer.
- AS.05.03.05.a Discuss the uses and advantages and disadvantages of natural breeding and artificial insemination.
- AS.05.03.05.b Explain the materials, methods and processes of artificial insemination.
- AS.06.01.01.a Discuss the dangers involved in working with animals.
- AS.06.01.01.b Outline safety procedures for working with animals by species.
- AS.06.01.02.a Explain the implications of animal welfare and animal rights for animal agriculture.
- AS.07.01.02.a Identify facilities needed to house and produce each animal species safely and efficiently.
- AS.07.01.02.b Explain how modern equipment and handling facilities enhance the safe and economic production of animals.

## **Biotechnology Systems**

- BS.03.02.01.a Explain the functions of hormones in animals.

## **Food Products and Processing Systems**

- FPP.04.01.01.a Identify quality and yield grades of food products.
- FPP.04.01.01.b Discuss factors that affect quality and yield grades of food products.