

Animal Science (2013)

Animal Origin AS.01.01

- 1 Identify the origin, significance, distribution and domestication of animal species. AS.01.01.1
- 2 Define major components of the animal industry. AS.01.01.2

Classify Animals AS.02.01

- 1 Explain the importance of the binomial system of nomenclature. AS.02.01.1
- 2 Identify major animal species by common and scientific names. AS.02.01.2

Comparative Anatomy & Physiology AS.02.02

- 1 Identify basic characteristics of animal cells, tissues, organs and body systems. AS.02.02.1
- 2 Diagram a typical animal cell and identify the organelles. AS.02.02.2
- 3 Describe the basic functions of animal cells in growth and reproduction. AS.02.02.3
- 4 Describe the properties, locations, functions and types of animal tissues. AS.02.02.4
- 5 Describe the properties, locations, functions and types of animal organs. AS.02.02.5
- 6 Describe the functions of the animal body systems and system components. AS.02.02.6

Selecting Animals AS.02.03

- 1 Identify ways an animal's health can be affected by anatomical and physiological disorders. AS.02.03.1
- 2 Create a program to develop an animal to its highest potential performance. AS.02.03.2

Prevention & Treatment of Animals AS.03.01

- 1 Explain methods of determining animal health and disorders. AS.03.01.1
- 2 Identify common diseases, parasites and physiological disorders that affect animals. AS.03.01.2
- 3 Explain characteristics of causative agents and vectors of diseases and disorders in animals. AS.03.01.3

4 Explain the clinical significance of common considerations in veterinary treatments, such as aseptic techniques. [AS.03.01.4](#)

5 Identify and describe zoonotic diseases. [AS.03.01.5](#)

Biosecurity [AS.03.02](#)

1 Explain the importance of biosecurity to the animal industry. [AS.03.02.1](#)

Formulate Feed Rations [AS.04.01](#)

1 Compare and contrast common types of feedstuffs and the roles they play in the diets of animals. [AS.04.01.1](#)

2 Explain the importance of a balanced ration for animals. [AS.04.01.2](#)

Feed Additives & Growth Promotants [AS.04.02](#)

1 Explain the purpose and benefits of feed additives and growth promotants in animal production. [AS.04.02.1](#)

Male & Female Reproductive Systems [AS.05.01](#)

1 Explain the male and female reproductive organs of the major animal species. [AS.05.01.1](#)

Breeding Readiness & Soundness [AS.05.02](#)

1 Explain how age, size, life cycle, maturity level and health status affect the reproductive efficiency of male and female animals. [AS.05.02.1](#)

2 Discuss the importance of efficient and economic reproduction in animals. [AS.05.02.2](#)

Scientific Principles in Breeding [AS.05.03](#)

1 Explain genetic inheritance in agricultural animals. [AS.05.03.1](#)

2 Define natural and artificial breeding methods. [AS.05.03.2](#)

3 Explain the use of quantitative breeding values (e.g., EPDs) in the selection of genetically superior breeding stock. [AS.05.03.3](#)

4 Explain the advantages of major reproductive management practices, including estrous synchronization, superovulation, flushing and embryo transfer. [AS.05.03.4](#)

5 Discuss the uses and advantages and disadvantages of natural breeding and artificial insemination. [AS.05.03.5](#)

Safe Animal Handling [AS.06.01](#)

1 Discuss the dangers involved in working with animals. [AS.06.01.1](#)

2 Explain the implications of animal welfare and animal rights for animal agriculture. [AS.06.01.2](#)

Animal Product Safety [AS.06.02](#)

1 Identify animal production practices that could pose health risks or are considered to pose risks by some. [AS.06.02.1](#)

2 Describe how animal identification systems can track an animal's location, nutrition requirements, production progress and changes in health. AS.06.02.2

Design Animal Facilities AS.07.01

1 Identify facilities needed to house and produce each animal species safely and efficiently. AS.07.01.1

2 Identify equipment and handling facilities used in modern animal production. AS.07.01.2

Government Regulations & Standards AS.07.02

1 List the general standards (e.g., environmental, zoning, construction) that must be met in facilities for animal production. AS.07.02.1

Reducing Environment Effects AS.08.01

1 Evaluate the effects of animal agriculture on the environment. AS.08.01.1

Environment Conditions on Animals AS.08.02

1 Identify optimal environmental conditions for animals. AS.08.02.1