Arkansas CTE

Animal Science II: Grades 10, 11, 12

Adopted 2013

Animal Reproduction

1.1 Reproductive Systems

1. Analyze the male reproductive organs and their functions. (penis, testis, scrotum) 1.1.1
2. Analyze the female reproductive organs and their functions. (vagina, cervix, uterus, ovary) 1.1.2
3. Analyze the estrous cycle in common livestock. (cattle, sheep, goats, swine, horses, chickens and turkeys). 1.1.3

1.2 Breeding Methods

1. Compare and explain natural breeding methods in animals.(cattle, sheep, goats, swine, horses, chickens and turkeys) 1.2.1
2. Assess artificial breeding methods in animals. 1.2.2
3. Discuss the advantages and disadvantages of natural breeding and artificial breeding. 1.2.3
4. Assess and analyze the materials, methods and processes of artificial insemination. 1.2.4

1.3 Reproductive Technology

1. Assess the advantages of major reproductive management practices including estrous synchronization, superovulation, flushing and embryo transfer. 1.3.1
2. Analyze the process of major reproductive management practices including estrous synchronization, superovulation, flushing and embryo transfer. 1.3.2

Genetics

2.1 Genetic Inheritance

1. Explain genetic inheritance in animals in terms of genes, chromosomes and DNA. 2.1.1
2. Assess and analyze dominant and recessive traits in terms of alleles, genotype, phenotype, homozygous and heterozygous. 2.1.2

2.2 Genetics Applied

1. Predict possible offspring of matings by using the Punnett Square. 2.2.1

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2. Explain the meaning and use of quantitative breeding values (e.g. EPDs) 2.2.2

Animal Health

3.1 Animal Health

1. Explain methods of determining animal health. (heart rate, temperature, respiratory rate, physical appearance, behavior) 3.1.1

3.2 Disease/Disorder Prevention and Treatment

1. Identify different methods of administering medicines to animals, calculate dosage rates and withdrawal times. (oral, topical, injections (subcutaneous, intramuscular, intravenous)). 3.2.1
2. Assess the importance of biosecurity to the animal industry. 3.2.2

3.3 Animal diseases and disorders

1. Identify common diseases that affect animals, the prevention and treatment of them. (blackleg, brucellosis, equine infectious anemia (coggins), parvo, scrapie, bovine spongiform encephalopathy (madcow)) 3.3.1
2. Assess common parasites that affect animals, the prevention and treatment of them. (flies, lice, brown stomach worms, heartworms, coccidian, ringworm) 3.3.2
3. Analyze common physiological disorders that affect animals, the treatment and prevention of them. (stress, poor nutrition, abuse, improper environment, sanitation) 3.3.3
4. Identify and describe zoonotic diseases. (rabies, lyme disease, brucellosis, ringworm) 3.3.4

Animal Products and Marketing

4.1 Animal Products

1. Evaluate the primary products obtained from animals. (cattle, sheep, goats, swine, chickens and turkeys) 4.1.1

4.2 Marketing of Animals and their products

1. Analyze the marketing of agricultural animals. (terminal, auction, private treaty) 4.2.1
2. Analyze the marketing of agricultural products. (Ex. Brand name recognition, niche and value added) 4.2.2