

Appendix K

AGRICULTURE, FOOD, AND NATURAL RESOURCES (AFNR) YOUTH APPRENTICESHIP

ANIMAL PATHWAY ANIMAL BASICS UNIT UNIT 3

Unit 3: Animal Pathway

Animal Basics

Competency

1. Clean and maintain animal quarters

Performance Standard Condition

Competence will be demonstrated

- at the worksite

Performance Standard Criteria

Performance will be successful when the learner:

- Cleans animal quarters on a regular basis as required by your facility
- Reviews the procedure for the specific cleaning protocol required prior to performing
- Obtains the appropriate cleaning equipment, solutions, waste containers, and replacement substrate
- Wears required Personal Protective Equipment (PPE) and clothing if applicable
- Rakes, shovels, hoses, wipes, removes any soil or waste from the quarters to appropriate waste containers
- Cleans quarters with appropriate solutions
- Disinfects as required
- Assembles replacement bedding or substrate
- Maintains light, temperature, humidity, and air exchange adequate for type of animal
- **Manages animal waste** as required
- Documents cleaning completion

Learning Objectives

- Identify components of the Animal Welfare Act
- Evaluate laws governing animal research, care, facilities, and production
- Explain how proper facility maintenance impact animal well-being
- Explain the importance of providing adequate space to all animals
- Explain the role of proper ventilation regarding animal well-being
- Describe proper housing requirements for animal species that you are working with
- Identify equipment and handling facilities used in animal care or animal production environments
- List standards (environmental, zoning, construction) that must be met by facilities that perform animal care or animal production
- Compare different types of sanitation and disinfecting techniques

Comments:

Unit 3: Animal Pathway

Animal Basics

Competency

2. Safely handle animals

Performance Standard Condition

Competence will be demonstrated

- at the worksite

Performance Standard Criteria

Performance will be successful when the learner:

- Reviews the specific requirements required for handling, harnessing, or restraining
- Wears appropriate clothing and footwear
- Checks that any restraints or equipment to be used is in working order
- Assesses the animal's behavior prior to handling
- Uses animal calming methods to settle the animal
- Obtains assistance if needed
- Follows safety plan for handling, harnessing, or restraining the animal
- Applies any harnesses or restraint systems safely for you and the animal

Learning Objectives

- Discuss dangers in working with animals
- Compare types of harnesses and restraints for large and small animals
- Describe placements of halters and types of knots used in large animal restraints
- Explain where to stand and how to lead when working with large animals
- List proper restraint techniques for animal(s) that you work with
- Explain factors which stimulate or discourage given types of animal behavior
- Describe ways in which animal behavior is assessed
- List methods for calming animals prior to handling
- Recognize features of typical animal behavior
- Compare and contrast between association and rewarded behavior as training methods for animals
- EQUINE, if applicable
 - Describe and demonstrate basic horsemanship and riding techniques

Comments:

Unit 3: Animal Pathway

Animal Basics

Competency

3. Mix feed, additives, and/or medicines

Performance Standard Condition

Competence will be demonstrated

- at the worksite

Performance Standard Criteria

Performance will be successful when the learner:

- Consults appropriate diet and/or vet plan to provide correct mix of nutrients, additives and/or medicines for animals' developmental stage or health
- Wears required clothing and maintain cleanliness of area
- Verifies mixing equipment is operational and calibrated
- Obtains ingredients required for mix
- Operates mixing equipment safely
- Mixes ingredients required as indicated in plan in correct amounts
- Labels and stores mix properly
- Documents feed, additives and/or medicines preparation process and mix used

Learning Objectives

- Describe the characteristics of protein, carbohydrates, water, fats/oils, minerals and vitamins and their impact on animal growth, production, and health
- List common types of enrichment additives for the species you work with
- Explain the impact of hormone use on animal production, treatment, and public safety
- Explain why nutrient requirements are different throughout an animal's life cycle
- Recognize legal issues involving drugs in the workplace including standards for medication & treatment records
- Explain components of the medication label
- Compare drug inventory and drug usage records
- Describe common animal prescription medications and over-the-counter medications
- Describe appropriate routes and methods of drug and vaccine administration
- Explain the principles and guidelines for the responsible use of antibiotics

Comments:

Unit 3: Animal Pathway

Animal Basics

Competency

4. Manage animal waste

Performance Standard Condition

Competence will be demonstrated

- at the worksite

Performance Standard Criteria

Performance will be successful when the learner:

- Treats animal waste on a regular basis as required by your facility
- Reviews the procedure for the specific treatment and/or disposal protocol required prior to performing
- Obtains the appropriate equipment, solutions, and containers
- Wears required Personal Protective Equipment (PPE) and clothing if applicable
- Ensures proper ventilation and airflow of areas to be cleaned
- Collects solid waste materials in appropriate waste containers
- Treats solid waste materials as required
- Disposes of treated solid waste as required

Learning Objectives

- Examine environmental concerns associated with animal waste, such as air and water pollution
- Analyze the environmental regulation for animal waste set forth by governmental organizations, such as the Environmental Protection Agency
- Outline methods to reduce the impact of animal waste on the environment
- Discuss appropriate waste handling methods for the animals that you are working with
- Identify characteristics of solid waste treatment
- Identify the risks associated with solid waste accumulation and disposal
- Describe wastewater collection systems
- Describe the disinfection process in wastewater treatment
- Describe methods to incinerate solid waste
- Describe recycling methods

Comments:

Unit 3: Animal Pathway

Animal Basics

Competency

5. Observe and measure animal physical characteristics

Performance Standard Condition

Competence will be demonstrated

- at the worksite

Performance Standard Criteria

Performance will be successful when the learner:

- ***Safely handles animal*** in order to prepare for measurement
- Observes animal gait
- Notes any abnormal behaviors
- Evaluates physical condition by assessing hair, eyes, breathing
- Looks for signs of swelling, limping, or cuts
- Observes mucous membranes and any discharges
- Examines animal teeth
- Measures weight and height
- Measures temperature, pulse and respiration
- Evaluates appetite and feed/water intake
- Documents measurements
- Records patterns of weight, growth and diet

Learning Objectives

- Define basic terms integral to animal anatomy & physiology
- Describe the purpose and function of cells
- Compare plant and animal cells
- Identify animal cell organelles and functions
- Name and locate external anatomy of animals
- Discuss the major functions of vertebrate systems, including digestive, reproductive, circulatory, nervous, muscular, skeletal, respiratory and endocrine
- Describe the interrelationship between animal systems
- Evaluate characteristics of animals that led to their domestication
- Identify signs of a healthy animal- behavior, appetite, coat, skin, and eyes
- Recognize normal ranges for temperature, respiration, pulse, and physical characteristics for a healthy animal versus an unhealthy animal
- Identify signs of an unhealthy animal- behavior, appetite, dry nose, discharge, posture, skin, coat, swelling, and mucous membranes
- Explain how to take temperatures for the animal(s) that you work with
- Explain how to determine pulse, respiration, weight and height for the animal (s) that you work with
- Describe how to determine the age of animals through teeth examination
- Discuss how age and teeth wear can affect animal well-being

Comments:

Unit 3: Animal Pathway

Animal Basics

Competency

6. Assist to examine animals

Performance Standard Condition

Competence will be demonstrated

- at the worksite
- while assisting a worksite professional

Performance Standard Criteria

Performance will be successful when the learner:

- ***Safely handles animal*** in order to prepare for examination
- ***Observes and measures physical characteristics***
- Assists to perform simple diagnostic procedures in evaluating an animal's health status
- Compares assessment to designated standard animal chart
- Discusses possible animal ailments based on assessment with worksite professional
- Observes and assists worksite professional to identify and implement treatment options
- Documents examination and treatment or referrals to veterinary services with worksite professional

Learning Objectives

- Classify animals according to anatomy and physiology
- Describe functional differences in animal structures and body systems
- Explain methods for determining animal health and disorders
- Identify ways that an animal's health can be affected by anatomy/physiology problems
- Identify symptoms of common diseases, illnesses, parasites, and other health-related problems for the animal(s) you work with
- Describe how housing, sanitation, and nutrition influence animal health and behavior
- Describe common causes of disease and treatment for the species that you are working with
- List signs indicating dehydration
- Understand the role of the Veterinary Practice Act
- Describe the limits of unlicensed staff to exam and evaluate animal health according to the Veterinary Practice Act
- List preventive measures for controlling and limiting the spread of diseases and parasites among animals
- Describe causative agents and their vectors of diseases in animals

Comments:

Unit 3: Animal Pathway

Animal Basics

Competency

7. Collect samples for testing and/or food production

Performance Standard Condition

Competence will be demonstrated

- at the worksite

Performance Standard Criteria

Performance will be successful when the learner:

- Reviews the specific requirements required for sampling or collecting animal products
- ***Safely handles animal*** in order to prepare for sampling or collecting animal products
- Obtains and prepares equipment as required
- Collects testing sample or animal product
- Uses proper hygiene for obtaining samples to prevent the introduction and spread of infection
- Documents collection
- Cleans/disinfects equipment and supplies

Learning Objectives

- Explain the importance and uses of animal tissues in agriculture and non-agricultural industries for production or for veterinary analysis
- Compare types of tissue samples obtained to assess animal health
- Compare types of tissue samples obtained to assess animal by-product quality
- Compare methods for collecting urine
- Compare methods for collecting feces
- Compare methods for collecting blood
- Identify collection practices that pose safety and health risks
- Identify animal tissues that pose health risks
- Define biosecurity
- Explain the importance of biosecurity to the animal industry

Comments:

Unit 3: Animal Pathway

Animal Basics

Competency

8. Maintain animal care and business records

Performance Standard Condition

Competence will be demonstrated

- at the worksite

Performance Standard Criteria

Performance will be successful when the learner:

- Selects appropriate forms/records
- Labels and/or code documents as required
- Files forms/records in appropriate location
- Retrieves and replaces files in correct position
- Adds, Edits, Verifies and Queries data in electronic files if applicable
- Uses appropriate computer codes, formatting, macros, charts, spreadsheets, etc.
- Verifies data prior to entry/storage
- Maintains files as required
- Keeps animal records on health at birth, acquisition, or first visit, identity, disease diagnosis and treatment, medications, height and weight, food intake, reproductive events, care related costs, death or sale information as applicable to the business

Learning Objectives

- Describe the functions of business records
- Identify common kinds of business records
- Define terms used in animal records
- Discuss common legal forms used in animal services
- Explain why record keeping is necessary to assess the current financial condition of a business and why it is helpful in planning and preparing for the future
- Identify and describe the characteristics of good record keeping
- Compare manual and electronic record keeping systems
- Demonstrate how electronic data is manipulated such as in a spreadsheet system
- Explain how data & files are stored and “backed up”
- Describe the purpose of security and ID information within record keeping systems
- Describe how animal identification systems track location, nutrition requirements, and/or changes in health
- Explain the importance of a written plan for euthanasia

Comments:

Unit 3: Animal Pathway

Animal Basics

Competency

9. Manage inventory

Performance Standard Condition

Competence will be demonstrated

- at the worksite

Performance Standard Criteria

Performance will be successful when the learner:

- Checks incoming items for damage
- Verifies incoming items match purchase order and description
- Notifies appropriate parties and take corrective action when defective items are identified
- Monitors location of items
- Monitors inventory use for ordering levels
- Assists worksite professional to perform inventory checks
- Checks that proper inventory levels are maintained
- Rotates items to minimize old and outdated inventory
- Performs inventory counts
- Assists with inventory inaccuracies investigations
- Documents inventory activities

Learning Objectives

- Explain the purpose of an inventory plan
- Identify the costs of maintaining inventory
- List methods of productivity measurement and just-in-time inventory control
- Explain the importance of maintaining inventory levels to minimize inventory value
- Discuss the timing of inventory audits to production requirements
- Describe your facility's policy in the event of inventory shortage
- List examples of situations that indicate the need for a review of storage and retrieval systems to determine if upgrades and replacement are warranted

Comments:

Unit 3: Animal Pathway

Animal Basics

Competency

10. Evaluate the facility business and marketing plan

Performance Standard Condition

Competence will be demonstrated

- at the worksite OR in the classroom in a simulated setting
- NOTE: A simulated setting should ONLY be used IF there is no possibility of skill performance at the worksite

Performance Standard Criteria

Performance will be successful when the learner:

- Identifies the goals and objectives for the business
- Verifies records are kept and maintained on finances, production, animal health, animal breeding, animal identification, animal registration and sales as required
- Identifies what products are for sale
- Identifies pricing goals
- Describes how product will be merchandised
- Evaluates cost of production
- Evaluates pricing opportunities (cash, futures, options)
- Evaluates pricing indicators (supply & demand)
- Reviews the strategy for evaluating and updating the marketing plan
- Identifies markets for selling products

Learning Objectives

- Define agribusiness and describe the sectors of agribusiness
- Identify and describe basic categories of resources, and explain why each is necessary to produce a product
- Explain factors that determine the ability of a business to start successfully
- List and explain the factors that typically contribute to the success and failure of agribusinesses
- Explain the purpose and importance of a business plan
- Describe the parts of a business plan
- Appraise and evaluate the economic value of animals for various applications in the agriculture industry
- Review pricing methods
- Explain how to price that includes a reasonable return on investment
- Relate production size to costs
- Calculate housing, feed, utility, breeding, and vet care costs
- Define marketing and the marketing mix
- Define the purpose for developing a marketing plan
- Explain the essential elements of a marketing program
- List marketable animal products and byproducts
- Compare organic animal industry to traditional animal production

Comments: