

# Horse

November 2017

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## Educational Topics

### General knowledge

- Broaden vocabulary, descriptive terms and knowledge of the equine industry through mastery of the outcomes detailed below.

### Breeds and registries

- Understand basic foundation breeds, origin, and history of breeds in the US and their role within the equine industry
- Identify 10-15 pony, light, sport and draft breeds nationally and internationally and their respective registries.
- Apply breeds to various disciplines and their suitability for work/performance.

### Colors

- Determine inheritance of coat colors through genetic coding of coat colors.
- Relate coat colors to breed standards.
- Understand use of markings for identification purposes, including tattooing and branding.

### History of the horse

- Identify and describe the evolutionary forms of *Equus*.
- Understand the role of subspecies that contributed to ancestry of today's horse.



### **Selection and use of horses**

- Create sound, accurate and detailed reasons for evaluation of horse conformation and performance classes.
- Apply concepts of form to function, use of horses and breed characteristics to assess suitability of stock for breeding, performance or culling, and adherence to breed standards.
- Understand how conformation faults and blemishes can impact a horse's gait, soundness and overall health.
- Identify internal and external parts of the horse's anatomy and relevant applications to physiology including but not limited to muscles, bones, tendons/ligaments, teeth, body systems, and associated structures.

### **Hoof care**

- Identify various types of horse shoes and their applications in therapy, performance and maintenance.
- Understand the application of identifiable farrier tools along with their uses in hoof management and care.
- Recognize hoof diseases, conditions and structural issues and propose potential solutions.

### **Equine health and disease**

- Describe life cycles, symptoms and prevention strategies including management practices for internal and external parasites in equids.
- Explain differences in metabolic, non-infectious and infectious diseases and conditions in horses including modes of transmission, symptoms, treatment, containment, prevention and other associated details where appropriate.
- Create management plans including biosecurity measures and disease control for horse facilities.
- Understand and apply first aid and emergency management techniques to various settings and situations, including identification of first aid kit components and their uses.
- Apply knowledge of dental conditions (i.e., parrot or monkey mouth, wave mouth, hooks/points) to horse's health and management.

### **Tack and equipment**

- Recognize and apply tack and equipment to respective disciplines and uses, including but not limited to boots, bits, saddles, bridles, rider turnout, artificial aids and training tools.

### **Nutrition and feeding**

- Create nutritional feeding management plans based on body weight, body condition, age and disease, with consideration given to maintenance and/or increased nutritional needs (i.e., growth, breeding, lactation, work load, or disease).
- Understand and apply differences in concentrate and fiber feedstuffs based on their suitability within an equine diet (i.e., high vs. low protein, fat, fiber, simple or complex carbohydrate) and other characteristics of feedstuffs.
- Identify toxic plants to horses, describe their effects if horses are exposed, and physical descriptions of each.
- Distinguish common weeds, grasses and legumes based on their growth periods, physical appearance, management strategies and nutritive value through growth stages.
- Understand the role of fat- and water-soluble vitamins within the body and function of each vitamin within horse's physiology.
- Describe role of macro and trace minerals within the body and impact on physiological function.

### **Responsible horse ownership**

- Determine role of horse processing on unwanted horse population.
- Understand responsible breeding and impact on equine population in US and internationally.
- Select horse(s) based on criteria relating to horse age, training and suitability for rider's age, experience level, and goals; assess cost and market for sale based on similar parameters

### **Horse Behavior**

- Apply herd dynamics to feral and domestic horse herds and role within management practices.

### **Facilities**

- Discuss safety practices to be implemented when designing or building equine facilities and structures, including but not limited to fire prevention, building materials, dimensions, ventilation.
- Identify characteristics that are advantageous/disadvantageous for site selection of equine facilities.
- Discuss barn and arena design and materials, including flooring; stall layout and size; walls; roofing; ventilation; storage for bedding, hay and equipment; human facilities; and other structures associated with equine facilities.
- Review and apply pasture management considerations to farm management plans and recommendations for maintaining or establishing new pasture.
- Create a budget for facility construction and maintenance based on material estimates.
- Understand paperwork, permits and other regulations impacting equine facility construction.
- Analyze the impact of horse farms on environmental quality and ways to improve management practices.

## Waste Management

- Develop plans for waste management including composting of manure, urine, stall waste and carcasses.
- Understand limitations, benefits and drawbacks of composting, burial, incineration, biodigestion and other methods of waste disposal.

## Exercise Physiology

- Understand light, moderate, heavy and very heavy workload classifications with regard to workload descriptions, discipline examples, heart rates and nutritional needs.
- Understand differences within skeletal muscle fiber type, metabolism and function.
- Develop training programs for specific disciplines, with consideration given to specificity and activity level.

## Genetics

- Understand and apply central dogma of genetic information and modes of inheritance to equine examples.
- Determine role of genetics on inherited diseases including dominant vs. recessive linkage, symptoms of disease, breeds affected, and responsible breeding techniques to avoid transmittance.

## Reproduction

- Recognize structures of mare and stallion reproductive anatomy.
- Identify signs of parturition, stages of parturition, and indicators of situations where veterinary intervention is warranted (i.e., red bag, dystocia).
- Identify, define and describe role of reproductive hormones and endocrinology in creating gametes, regulating reproductive cycles and onset of sexual maturity.
- Describe how sperm and ova are formed, along with the stages of fertilization, implantation and maternal recognition of pregnancy.
- Understand components of a breeding soundness exam and impact of sperm motility and morphology on fertility.
- Recognize birth defects, nutritional deficiencies and other conditions affecting foals.
- Understand reproductive management concepts including estrus detection, mare and stallion management, and other related topics.
- Describe reproductive technologies utilized within the equine industry including live cover, artificial insemination, embryo transfer, cloning and semen collection.

## Educational Contests

### Horse Judging

- Youth should be able to accurately place halter and performance classes in accordance with the Tennessee 4-H Horse Championships Handbook in practice and at county, regional and open state contests.

## Horse Advanced Outcomes

- Youth should be preparing and delivering simple sets oral reasons to accurately reflect placing decisions in practice and at county, regional and open state contests.

### Hippology

- Youth should be comfortable completing a 50-question written exam, 50-slide identification phase, and judging two classes of performance and/or halter classes, six stations, along with a prepared and impromptu team problems in accordance with the Tennessee 4-H Horse Championship Handbook.
- Youth should be studying above outcomes in preparation for contests at the county, regional and state levels.

### Horse Bowl

- Youth should be studying above outcomes in preparation for a quiz game show-style contest in accordance with the Tennessee 4-H Horse Championships Handbook for contests at the county, regional and state levels.

### Public Speaking

- Youth should practice preparing and delivering speeches to county agents, volunteers and/or other adult or youth leaders on content outcomes listed above in accordance with the Tennessee 4-H Horse Championships Handbook.

### Individual Presentation

- Youth should practice preparing and delivering individual presentations to county agents, volunteers and/or other adult or youth leaders on content outcomes listed above in accordance with the Tennessee 4-H Horse Championships Handbook.

### Team Presentation

- Youth should practice preparing and delivering team presentations to county agents, volunteers and/or other adult or youth leaders on content outcomes listed above in accordance with the Tennessee 4-H Horse Championships Handbook
- For youth participating in riding activities or showing, the following concepts should be mastered in accordance with years in project, but are not considered mandatory.

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