



**2006 Eastern National 4-H Horse Bowl  
Round One**

- 5 C1      Q.    Osselets is the term for an inflammation of the periosteum on the anterior surface of what joint?
- A.    Fetlock
- S.    Evans pg 161, Lewis pg 398                      810/2
- 
- 6 C2      Q.    The sole of the hoof is flatter on which pair of feet – front or rear?
- A.    Front
- S.    YLM – 321-2    410/2
- 
- 7 C3      Q.    Are **most** poisonous plants “more” or “less” toxic as the plant matures?
- A.    Less toxic
- S.    Lewis pg. 303-3698                                      770/3
- 
- 8 C4      Q.    What feed additive is commonly used to reduce dust and increase palatability of a feed?
- A.    Molasses
- S.    HIH 760-7    700/2



**2006 Eastern National 4-H Horse Bowl  
Round One**

**Begin Open Questions**

- 13 Q. How did the land bridges which formed during the Ice Age affect the history of Equus?
- A. They allowed Equus to migrate from North America throughout the rest of the world.
- S. Evans pg 4 100/3
- 14 Q. What is the common name of the bacterial disease of younger horses that affects the salivary glands and lymph nodes in the submandibular and retropharyngeal area?
- A. Strangles, equine distemper, shipping fever
- S. Evans pg 96 850/2

**Toss Up – Bonus Attached**

- 15 Q. (Two part) What two things are found in the sensitive laminae of the hoof that cause it to be called sensitive?
- A. Nerves and blood vessels.
- S. HIH 505-2 415/3

**Bonus Question**

- 16 Q. (Bonus question) From proximal to distal name the three joints of the horses legs that are common to all four legs.
- A. Fetlock, pastern and coffin
- S. Evans pg 98 400/2

**2006 Eastern National 4-H Horse Bowl  
Round One**

**Resume Open Questions**

- 17 Q. Horses are at greatest risk for plant poisoning under what environmental conditions?
- A. When pastures are overgrazed and noxious weeds are able to proliferate, often due to poor pasture management or drought.
- S. Lewis pg 301 770/3
- 18 Q. What structure of the hoof am I? I am arched in shape, I provide some weight support, I flatten slightly to help absorb concussion, but my primary function is protection.
- A. The sole of the hoof
- S. HIH 505-2, 4 415/2
- 19 Q. How many pounds of manure does a 1000 pound horse produce per day?
- A. 45 – 50 pounds
- S. HIH 360-2 920/2

**Toss Up – Bonus Attached**

- 20 Q. (Two Part) When considering vision, where are the horse's two blind spots?
- A. Directly to the rear, behind its hindquarters  
Directly below the head, or directly in front
- S. HIH 1220-1 420/2



**2006 Eastern National 4-H Horse Bowl  
Round One**

- 25 Q. Orphan foals have a very high dietary energy requirement and should be fed how often during the first 1 – 2 weeks of life?
- A. Every 2 to 4 hours
- S. Kainer plate 69, Lewis pg 275 500/3

**Toss Up – Bonus Attached**

- 26 Q. (Two part) The bones and the teeth contain the majority of what two minerals found in the horses body?
- A. Calcium and phosphorus
- S. Lewis pg 20 750/2

**Bonus**

- 27 Q. (Bonus question) Name four different types of grass forage
- |    |                     |               |               |
|----|---------------------|---------------|---------------|
| A. | Bermuda Grass       | Reed Grass    | Wheat Grasses |
|    | Canary (reed) Grass | Bluegrass     | Digit Grasses |
|    | Sudan Grass         | Brome Grass   | Redtop        |
|    | Tall Fescue         | Orchard Grass | Bahia Grasses |
|    | Timothy             | Rye Grass     | Johnson Grass |
|    | Sorghum             | Sudex         | Millet        |
- S. YLM 102-1, Lewis pg 109-110 780/3

**Resume Open Questions**

- 28 Q. What color hair mixes with white hairs in a strawberry roan?
- A. Chestnut
- S. Evans pg 81 300/2

**2006 Eastern National 4-H Horse Bowl  
Round One**

- 29 Q. Thrush is a black, strong smelling infection of the hoof that causes destruction of the frog. Is it caused by aerobic or anaerobic bacteria?
- A. Anaerobic bacteria
- S. YLM 334-1 815/2
30. Q. A horse's body fat can be estimated using what method of evaluation?
- A. Body condition scoring
- S. HIH 720-3 710/2
- 31 Q. When driving a horseshoe nail, the nail is started with the flat of the nail oriented in what direction?
- A. The flat side is oriented to the outside.
- S. Evans pg 745 900/3

**Last Question of the Round**

- 32 Q. How old would a horse be with all adult teeth present and Galvayne's groove beginning to show at the gum margin of the upper corner incisor?
- A. 10 years old (accept range of 9 to 10 years old-DET pg 117)
- S. YLM 205-2, HIH 240-4, DET pg 117 430/3









**2006 Eastern National 4-H Horse Bowl  
Round Two**

**Resume Open Questions**

- 17 Q. What type of long bone fractures is more common in the young colts?
- A. Physeal or growth plate fractures
- S. Kainer plate 13 810/3
- 
- 18 Q. Identify the horse color from the following description – body color yellowish or gold; mane and tail black; usually black on the lower legs, and usually no dorsal stripe.
- A. Buckskin
- S. HIH 140-1 300/2
- 
- 19 Q. What is the common name for the larval stage of *Gastrophilus nasalis*?
- A. Bot
- S. Evans pg 633 880/3

**Toss Up – Bonus Attached**

- 20 Q. (Two Part) There are 64 total chromosomes in each cell of the horse. Of these how many are autosomes and how many are sex chromosomes?
- A. 62 autosomes and 2 sex chromosomes
- S. HIH 1060-1 550/2

## 2006 Eastern National 4-H Horse Bowl Round Two

### Bonus

- 21 Q. (Bonus Question) Name four ways teeth can be used to age an adult horse?
- A. Occurrence of permanent teeth (eruption)  
Disappearance of cups (would include presence of dental stars or enamel spots)  
Angle of incidence  
Shape of the surface of the teeth  
Galvayne's groove  
Hook on upper corner incisors
- S. YLM 205-2, Lewis pg 177-8                      430/3

### Resume Open Questions

- 22 Q. What is the absolute minimum stall size recommended by the AYHC for a horse?
- A. 10 foot by 10 foot
- S. YLM 107-2    920/2
- 23 Q. What is the primary vessel that carries blood from the heart to the rest of the body?
- A. Aorta
- S. Kainer plate 57                                      440/3
- 24 Q. In visually examining a pasture, what characteristic of the pasture would be most closely correlated with the content of Vitamin A available to your horse feeding on that pasture?
- A. The green color of the pasture.
- S. Lewis pg 46    740/3

**2006 Eastern National 4-H Horse Bowl  
Round Two**

- 25 Q. Aluminum horseshoes have the advantage over steel horseshoes of being lighter in weight, but have what disadvantage compared to a steel shoe?
- A. Aluminum shoes wear faster.
- S. YLM 231-2 900/3

**Toss Up – Bonus Attached**

- 26 Q. (Two Part) Wood board fences are traditional for horses. They are rugged, safe and easily seen. What two financial reasons have seen an increase in newer types of fences over wood?
- A. Expensive to build and expensive to maintain
- S. Evans pg 761 920/3

**Bonus**

- 27 Q. (Bonus question) From proximal to distal name the seven joints of the caudal leg.
- A. Sacroiliac, hip, stifle, hock, fetlock, pastern and coffin.
- S. Evans pg 98 410/3

**Resume Open Questions**

- 28 Q. What fitting is being described by the terms – string, elastic–end contour, threefold and balding?
- A. Girths
- S. HIH 1100-3 1000/2

**2006 Eastern National 4-H Horse Bowl  
Round Two**

- 29 Q. Prolonged consumption of plants that contain oxalate may cause the deficiency of what mineral to develop?
- A. Calcium
- S. Lewis pg 302 770/3
30. Q. At what age should foals be introduced to concentrates?
- A. 1 to 2 months (also accept as early as the foal shows interest)
- S. HIH 783-2 700/3
- 31 Q. What do weighted shoes do to a horse's action?
- A. Enhance leg action by changing the timing of and adding momentum to hoof flight patterns.
- S. YLM 231-2 900/3

**Last Question of the Round**

- 32 Q. What is another term for the distal sesamoid bone?
- A. The navicular bone (shuttle bone)
- S. DET pg 82 410/2

**2006 Eastern National 4-H Horse Bowl  
Round Three**

**One-On-One**

- 1 C1      Q.    What is the common name for the membrane of the eye that helps remove foreign materials and is also called the third eyelid or nictitans?
- A.    Haw (Haws) (Do not accept nictitans, 3<sup>rd</sup> eyelid or nictitating membrane – not common terms)
- S.    DET pg 67, Evans pg 126                      420/3
- 
- 2 C2      Q.    The coronary cushion is the elastic portion of what structure of the hoof?
- A.    Coronary band
- S.    HIH 505-5    415/3
- 
- 3 C3      Q.    A double dilution of the bay color results in what color?
- A.    Perlino
- S.    Evans pg 81    300/2
- 
- 4 C4      Q.    What part of the equine digestive tract is found between the jejunum and the cecum?
- A.    Ileum
- S.    Kainer plate 51                                      430/2





**2006 Eastern National 4-H Horse Bowl  
Round Three**

**Begin Open Questions**

13 Q. Horses that eat new leaves and acorns from oak trees are poisoned by what substance?

A. Tannic acid

S. Lewis pg 303 770/3

14 Q. The disturbance of the blood flow and the bond of the sensitive laminae to the horny laminae is the cause of what disease?

A. Laminitis (accept founder – not really correct in current thinking, but used in Evans as similar events)

S. YLM 334-2 815/3

**Toss Up – Bonus Attached**

15 Q. What two additional gaits does the 5 gaited Saddlebred perform that the 3 gaited does not?

A. Slow gait (stepping pace) and rack (not single-foot – this is a classification to describe all four beat artificial gaits)

S. Evans pg 39-40, 178 200/3

**Bonus Question**

16 Q. (Bonus question) When examining a horse, what three things would you evaluate when looking at the mucous membranes?

A. Color, moistness, and capillary refill time

S. HIH 425-2 870/3

**2006 Eastern National 4-H Horse Bowl  
Round Three**

**Resume Open Questions**

- 17 Q. What tool is used to level the bearing surface of the hoof after it has been trimmed by the nippers?
- A. Rasp
- S. YLM 116-1 900/2
18. Q. The following statements are about forages. Which one is false?
- a. Forages are high in calcium and low in phosphorus
- b. Forages are high in fiber
- c. Forages are high in digestible energy
- A. C – forages are low in digestible energy
- S. Lewis pg 63 700/4
- 19 Q. Electrical wiring in a barn is always run in conduit to minimize fire hazards. Why?
- A. To prevent chewing or rubbing by horses
- S. YLM 107-2, Evans pg 775 920/2

**Toss Up – Bonus Attached**

- 20 Q. (Two Part) What are the two functions of the long bones of the horse?
- A. They act as levers and provide support for the weight and movement of the horse
- S. Evans pg 90 400/3

**2006 Eastern National 4-H Horse Bowl  
Round Three**

**Bonus**

- 21 Q. (Bonus question) Name four functions of the horse's kidneys?
- A. Production of urine – excretes waste products  
Filter the blood – cleanse  
Control water balance  
Control pH  
Maintain electrolyte balance
- S. Evans pg 119 470/3

**Resume Open Questions**

- 22 Q. What is the “proper term” for the allergic skin reaction commonly called hives or protein bumps?
- A. Urticaria
- S. DET pg 280 860/3
- 23 Q. What breed of horse is described as having contributed to almost every major American horse breed and is the oldest of the American breeds: Unlike most breeds this breed traces its foundation to a single stallion named Figure and is the only breed named after a horse.
- A. The Morgan
- S. HIH 151-1, Evans pg 6 0200/2
- 24 Q. Buttercups are toxic to horses when consumed on pasture. Why would buttercups in hay not be considered toxic?
- A. They are not toxic when they are dried
- S. Lewis pg 306 770/3

**2006 Eastern National 4-H Horse Bowl  
Round Three**

- 25 Q. What infection of the horses hoof would be comparable to human onychomycosis or nail fungus?
- A. White line disease (Fungal infection)
- S. YLM 334-1 815/3

**Toss Up – Bonus Attached**

- 26 Q. (Two Part) What are two advantages of using bedding for your horse that is more absorbent?
- A. You use less bedding and replace it less frequently (also less labor and less expensive)
- S. HIH 330-1 920/3

**Bonus**

- 27 Q. (Bonus question) If you were going to trim a horse's hoof, what are the four essential tools you would need to have?
- A. Hoof pick  
Hoof knife (Farrier's knife)  
Nippers  
Rasp
- S. Evans pg 722 900/3

**Resume Open Questions**

- 28 Q. The length of the horse's stride and frequency of the stride define what?
- A. Speed
- S. Evans pg 169 640/2

**2006 Eastern National 4-H Horse Bowl  
Round Three**

29 Q. What English saddle is being described? Padded knee roll, deep seat, forward flap, most popular type of forward seat saddle used for multiple disciplines.

A. All purpose saddle

S. HIH 1100-1 1000/2

30. Q. What term would be defined as the degree of expression of a trait for which the horse has the gene?

A. Penetrance

S. HIH 1060-2 550/4

31 Q. Why does a horse's refusal to eat a new type of grain **not** necessarily indicate that it is spoiled or unpalatable?

A. Horses tend to prefer grains that they are accustomed to and initially reject changes.

S. Lewis pg 73 700/4

**Last Question of the Round**

32 Q. In horse racing what distance describes the distance of 40 rods, 220 yards or 1/8 of a mile?

A. 1 Furlong

S. DET pg 116, Evans pg 20. 1040/2







**2006 Eastern National 4-H Horse Bowl  
Round Four**

**Begin Open Questions**

- 13 Q. Your horse spooks unexpectedly, looking quickly to the side, but you see nothing that could have caused this. Why might you suspect your horse was frightened by a noise even though you did not hear anything?
- A. Horses can hear sounds above the frequency range of human hearing.
- S. Evans pg 121 420/3
- 14 Q. What type of hammer would you use to shape and make shoes on the anvil?
- A. Rounding or turning hammer
- S. YLM 116-2 900/2

**Toss Up – Bonus Attached**

- 15 Q. (Two Part) What hormone in the horse helps control glucose levels by decreasing them and in what organ is it produced?
- A. Insulin, pancreas
- S. Evans pg 127, Kainer plate 54 490/3

**Bonus Question**

- 16 Q. (Bonus Question) The Paso Fino performs a unique four-beat lateral gait that is essentially a broken pace that can be performed at three different speeds. What are the proper names for these three gaits?
- A. Paso largo, Paso corto, Paso fino
- S. Evans pg 178 640/4

**2006 Eastern National 4-H Horse Bowl  
Round Four**

**Resume Open Questions**

- 17 Q. Other than dust and mold, what ventilation problem does storing hay above stalls create?
- A. Retention of heat and moisture (accept either – also accept fire – it would cause a ventilation problem and is a negative aspect of storing hay)
- S. YLM 107-3 920/3
- 18 Q. Name the breed that includes the following famous names in its history – Messenger, Greyhound, Hambletonian, Dan Patch, and Niatross.
- A. Standardbred
- S. Evans pg 28-9 200/3
- 19 Q. What Western saddle is being described? Straight leg position, deep seat, tall horn, high cantle, rounded flap and lightweight.
- A. Barrel racing (gymkhana) saddle
- S. HIH 1100-5 1000/2

**Toss Up – Bonus Attached**

- 20 Q. (Two part) The term ergot has two distinct meanings. What are they?
- A. Ergot is a fungus found on cereal grain plants that is toxic to horses  
A small horny growth at the base of the fetlock
- S. Lewis pg 388 0700/4



**2006 Eastern National 4-H Horse Bowl  
Round Four**

- 25 Q. Using wood shavings for bedding is more costly than using straw, but the additional cost can be justified financially by savings in what area?
- A. Labor
- S. HIH 330-1 920/3

**Toss Up – Bonus Attached**

- 26 Q. (Two part) In reference to horses, what two purposes does Epsom salts serve?
- A. Laxative or to treat a foot abscess or bruise
- S. DET pg 98 870/3

**Bonus**

- 27 Q. (Bonus Question) Give 3 symptoms of liver failure.
- A. Weight loss                      Depression  
Abnormal behavior              Icterus (jaundice)  
Bloody urine                        Anemia  
Photosensitization
- S. Lewis pg 310 800/4

**Resume Open Questions**

- 28 Q. An egg bar horseshoe is used to provide additional support to what part of the hoof?
- A. Rear portion or heels.
- S. HIH 515-4 900/3

**2006 Eastern National 4-H Horse Bowl  
Round Four**

- 29 Q. In feeding, what is the best way to insure the horse has adequate salt intake?
- A. Have salt available free choice – the horse will consume enough to meet its needs.
- S. Lewis pg 25 750/3

30. Q. What is the most common symptom of black walnut poisoning?
- A. Founder (laminitis)
- S. Lewis pg 323 770/3

- 31 Q. Explain why a boticide should be given one month after the first frost?
- A. The frost will kill the adult flies which eliminate further eggs and larvae. After one month any larvae will have migrated to the stomach and will be subject to the effects of the dewormer.
- S. Lewis pg 161 830/4

**Last Question of the Round**

- 32 Q. What term is used to describe the middle team in a six horse hitch?
- A. Swing team
- S. DET pg 261 1050/3







**2006 Eastern National 4-H Horse Bowl  
Round Five**

**Begin Open Questions**

13 Q. What pack saddle is being described – normally a centerfire-rigged, single cinched with a half-breed, and is best suited for sling loads?

A. Decker

S. HIH 1125-1 1020/3

14 Q. Identify the horse color from the following description – body color yellowish or gold; mane and tail may be black, brown, red, yellow, white or mixed; usually has a dorsal stripe, zebra stripes on legs and transverse stripe over the withers.

A. Dun

S. HIH 140-1 300/3

**Toss Up – Bonus Attached**

15 Q. (Two Part) What are the two major components of blood?

A. Plasma (not serum) and cells

S. Evans pg 117. 440/3

**Bonus Question**

16 Q. (Bonus question) From a genetic standpoint, what are the three basic colors of the horse?

A. Black, bay, and chestnut.

S. HIH 1040-1 550/4

**2006 Eastern National 4-H Horse Bowl  
Round Five**

**Resume Open Questions**

- 17 Q. What is the primary means through which internal parasites are spread?
- A. Manure
- S. HIH 430-4 835/3
- 18 Q. What advantage do web or rubber reins provide over plain reins?
- A. More secure grip, not slippery when wet.
- S. HIH 1100-6 1000/2
- 19 Q. What form of malnutrition is the most common one seen in horses in the United States?
- A. Obesity
- S. Evans pg 218 700/3

**Toss Up – Bonus Attached**

- 20 Q. (Two Part) The epiglottis helps direct the movement of materials through the pharynx into what two major tubular structures that exit the rear aspect of the pharynx?
- A. Trachea and esophagus
- S. Kainer plate 50, Evans pg 105 450/3

## 2006 Eastern National 4-H Horse Bowl Round Five

### Bonus

- 21 Q. (Bonus Question) Excessive salivation or slobbering may be caused by trauma to the mucous membranes of the mouth from a variety of plants and grasses. Identify three other causes (other than plants) of this symptom.
- A. Choke                                      Sharp points on the teeth  
Poorly fitting bits                      Inappropriately used bits  
Infectious diseases of the mouth (ex. Vesicular stomatitis)  
Horses bedded on wood shavings containing bitter weed  
Drugs    Old toothless horses
- S.      Lewis pg 301    830/4

### Resume Open Questions

- 22 Q. An abscess of the hoof can cause intense pain and lameness. Other than protecting the area and antibiotics, what is the most important thing to do to encourage resolution of this infection?
- A. Drainage of the abscess.
- S.      HIH 540-2    815/3
- 23 Q. What is the major event of the third stage of labor?
- A. Expulsion of the placenta
- S.      Kainer Plate 73    510/4
- 24 Q. You are evaluating a horse for purchase and it appears sound on examination and gaiting. What would you look for when examining the hooves to determine if the horse has experienced chronic laminitis?
- A. Irregular rings on the hoof wall (also a wide white line at the toe and a flat sole could be considered acceptable)
- S.      HIH 540-5    815/3

**2006 Eastern National 4-H Horse Bowl  
Round Five**

- 25 Q. What is the difference between bradycardia and tachycardia?
- A. Bradycardia is an unusually slow heart rate; tachycardia is an unusually rapid heart rate
- S. DET pg 37, 262 840/3

**Toss Up – Bonus Attached**

- 26 Q. Give two names for the artificial gait of the Tennessee Walking Horse that is characterized by a smooth, fluid motion; the hind foot overstrides the print of the front foot, and there is a nodding of the head.
- A. Running walk and plantation gait
- S. Evans pg 178 640/4

**Bonus**

- 27 Q. (Bonus Question) Name three things baling hay too wet – moisture content greater than 20% - will cause?
- A. Cause hay to become moldy (brown/black in color)  
Will generate heat that will cause a loss of vitamin content  
Will decrease protein digestibility  
May lead to spontaneous combustion
- S. YLM 337-2, Lewis pg 115, HIH 750-4 700/4

**Resume Open Questions**

- 28 Q. What structure on the ventral surface of the hoof is used as the guideline for shaping the hoof and nail placement?
- A. White line
- S. HIH 525-1 900/3

**2006 Eastern National 4-H Horse Bowl  
Round Five**

- 29 Q. What breed of horse is described as having a primary color of chestnut, but includes a wide range of other colors, having a refined head with small ears, a long neck with considerable arch, a high withers, used today primarily as a show horse and can be 3 or 5 gaited and shown in fine harness?
- A. American Saddlebred Horse
- S. HIH 156-1, Evans pgs 38-9                      200/3
- 30 Q. What is the minimum width for a stall door?
- A. 4 feet
- S. YLM 207-2, HIH 320-6                      920/3
- 31 Q. What class of horse, as defined for feeding management, might require increased quantities in the diet or unrestricted access to free choice salt?
- A. Working horses (lose salt through sweating)
- S. HIH 710-7                      750/4

**Last Question of the Round**

- 32 Q. Name one type of insurance that covers breeding mare infertility.
- A. Barrenness Insurance, Prospective Foal Insurance and Live Foal Insurance
- S. HIH 1340-3                      1100/3

**2006 Eastern National 4-H Horse Bowl  
Round Six**

**One-On-One**

1. C1      Q.    What is the name of the procedure used to “temporarily” anesthetize a nerve to localize the site of pain for lameness diagnosis?
- A.    A nerve block (not nerving)
- S.    Kainer plate 22, Lewis pg 397                    420/3
- 
2. C2      Q.    What hormone would be influencing the cervix when it is flaccid, very pink and vascular, and produces a thin watery mucous?
- A.    Estrogen
- S.    HIH 910-3    480/3
- 
3. C3      Q.    What arteries are the first to branch off of the aorta and supply blood to the heart muscle?
- A.    Coronary arteries
- S.    Kainer plate 58                                        440/3
- 
4. C4      Q.    In “general terms” what does the horse’s adrenal gland produce?
- A.    Hormones
- S.    DET pg 4, Evans pg 127                            490/3





**2006 Eastern National 4-H Horse Bowl  
Round Six**

**Begin Open Questions**

13. Q. When dividing horses into classes for nutritional management what nutritional class would weanlings and yearlings be placed in?
- A. Growing
- S. YLM 103-1 700/3
14. Q. Identify one plant that causes acute alkaloid poisoning.
- A. Larkspur (poison weed); monkshood (Aconite); poison, European or spotted hemlock; water hemlock; yew; death camas
- S. Lewis pg 334 770/4

**Toss Up – Bonus Attached**

15. Q. (Two Part) When handling a horse that experiences a fearful or objectionable situation and you remove the option of flight, what two possible choices does the horse have?
- A. Fight or submit
- S. Lewis pg 376 910/4

**Bonus Question**

16. Q. (Bonus question) Identify where each of the three serous membranes called the pleura, peritoneum and pericardium found in the horse?
- A. Thoracic cavity – pleura  
Abdominal cavity (and the pelvic cavity) – peritoneum  
Surrounding the heart – pericardial
- S. Kainer plate 56, DET pg 209, 215 440/4

**2006 Eastern National 4-H Horse Bowl  
Round Six**

**Resume Open Questions**

17. Q. What is the specific name of the type of western chaps that extend slightly beyond the knee, but do not cover the rider's shins?
- A. Chinks (do not accept half chaps – they cover the ankle and shin – chinks go from the thigh to the knee)
- S. DET pg 55 1060/3
18. Q. Which spavin would be defined as an inflammation of the intertarsal and tarsometatarsal joints resulting in excess bone formation causing lameness that often stops if the joints fuse?
- A. Bone Spavin (Jack Spavin)
- S. Evans pg 165, Kainer plate 32 620/4
19. Q. There are numerous disadvantages to using straw as a bedding, but what is the major safety issue with straw?
- A. It is highly combustible – fire hazard
- S. HIH 30-1 920/3

**Toss Up – Bonus Attached**

20. Q. What two minerals are necessary in the horse's diet for the regulation of all body fluids, maintenance of acid-base balance, and nerve impulse conduction?
- A. Sodium and chloride
- S. Lewis pg 25 750/3



**2006 Eastern National 4-H Horse Bowl  
Round Six**

25. Q. What is the single most important factor in storing grain?  
A. Moisture or safe storage (accept either)  
S. Lewis pg 77 700/3

**Toss Up – Bonus Attached**

26. Q. (Two Part) Name two of the body's organ systems that would be affected by cardiac glycoside poisoning?  
A. Cardiac, digestive, respiratory, digestive and nervous  
S. Lewis pg 339 770/3

**Bonus**

27. Q. (Bonus Question) In qualitative gene action what are the three primary types of action that effect the expression of the trait?  
A. Dominance, co-dominance and partial dominance  
S. HIH 1020-2 550/4

**Resume Open Questions**

28. Q. Name the type of shoe that is used to elevate the heels of a horse that is confined to stall rest?  
A. Patten Shoe  
S. YLM 231-3 900/4

**2006 Eastern National 4-H Horse Bowl  
Round Six**

29. Q. In describing a horse what would a hat rack be?  
A. An emaciated horse – very thin  
S. DET pg 130 700/3
30. Q. In natural conditions, horses demonstrate few vices. What is it about stalls and stabling that promotes the development of these vices?  
A. Boredom  
S. HIH 320-1 930/3
31. Q. What does the term teratogenic describe in regard to plant poisoning?  
A. Compounds that cross the placenta and cause physical defects in the fetus  
S. Lewis pg 332 770/4

**Last Question of the Round**

32. Q. Identify this bridle from the following description – double reined with the snaffle and curb bit separated, commonly used for 3 and 5 gaited horses.  
A. Weymouth bridle (Weymouth Set, Weymouth Curb), full bridle or double bridle  
S. HIH 1100-10, IDET 290. 1000/4







**2006 Eastern National 4-H Horse Bowl  
Round Seven**

**Begin Open Questions**

13. Q. What is the reason for putting a 6 inch wide board at the top of a wire fence?
- A. To allow the horse to see the fence better and to prevent damage to the horse and the fence.
- S. HIH 350-3 920/3
14. Q. What driving vehicle is being described – two-wheeled, low, closed body, drawn by a single horse or pony, and its name contains the name of another four legged friend of man?
- A. Dogcart
- S. DET pg 83 1050/3

**Toss Up – Bonus Attached**

15. Q. (Two Part) The meninges are three membranes covering what two structures?
- A. Brain and spinal cord
- S. Kainer Plate 81 420-3

**Bonus Question**

16. Q. (Bonus Question) Name the four major parts of the equine uterus.
- A. Cervix, body, and two horns
- S. Kainer Plate 70 480/3



## 2006 Eastern National 4-H Horse Bowl Round Seven

### Bonus

21. Q. (Bonus Question) Name or describe three sites where you can take the pulse of your horse.
- A. Facial artery – ventral border of the mandible – shallow groove on the lower border of the jaw behind the last cheek tooth  
Transverse facial artery – behind and below the eye, just below the zygomatic arch  
Lateral dorsal metatarsal artery – hind limb, outside, in groove between the cannon bone and splint bone  
Digital arteries – laterally and medially along deep flexor tendon at the pastern – back of the fetlock joint  
Median artery - Inside the elbow of the foreleg  
**(Do not accept tail artery – can find no references-used for bovine only)**
- S. Kainer plate 62 440/4

### Resume Open Questions

22. Q. What is the racing term used for administering an illegal drug to a horse to increase or decrease its speed or performance?
- A. Doping
- S. DET pg 84 1040/3
23. Q. As the digestibility of a feed increases, water consumption is decreased. Why?
- A. The amount of water excreted in feces is decreased.
- S. Lewis pg 4 700/4
24. Q. (Two Part) Name two areas to which a non-leverage bit like the snaffle applies pressure.
- A. Corners of the mouth, tongue, and bars. (Also accept roof of the mouth)
- S. HIH 1100-8 1000/3

**2006 Eastern National 4-H Horse Bowl  
Round Seven**

25. Q. Ingestion of wild onions, red maple leaves, or moldy sweet clover can result in what problem?
- A. Anemia
- S. Lewis pg 330 770/4

**Toss Up – Bonus Attached**

26. Q. (Two Part) What are the two most effective stimuli that can be used in horse training?
- A. Hearing – voice commands  
Touch – pressure – bit, legs, seat etc
- S. HIH 1240-2 910/4

**Bonus**

27. Q. (Bonus question) What are three major problems with wooden floors?
- A. Slippery when wet  
Prone to attracting rodents by creating an environment for urine to accumulate and feed to fall through the cracks.  
Splinters  
Difficult to disinfect  
Need to be periodically replaced
- S. HIH 320–3 920/3

**Resume Open Questions**

28. Q. Of the six basic classes of nutrients – water, protein, carbohydrates, fat, mineral and vitamins – which one of these has only one purpose - being required for body metabolism?
- A. Vitamins
- S. Lewis pg 3 740/3

**2006 Eastern National 4-H Horse Bowl  
Round Seven**

29. Q. Harsh shampoos can create a dry skin. What else does a harsh shampoo make the skin more susceptible to?
- A. More susceptible to microbial (bacterial and fungal) and parasite problems. (Accept either as a correct answer)
- S. Lewis pg 180 860/4
30. Q. Why is the phenotype of the horse not always representative of the horse's genotype?
- A. The effects of recessive genes may not be expressed in the phenotype (Also accept environmental factors)
- S. HIH 1060-2 550/4
31. Q. What is the characteristic feature of "polo" shoes that gives them better traction and enables the foot to roll over faster?
- A. The inside rim of the web is raised higher than the outside edge
- S. Evans pg 737 900/4

**Last Question of the Round**

32. Q. Why is properly composted manure and bedding safe to spread on pastures without worry about the spread of parasites, pathogenic bacteria, or weed seeds?
- A. Composted manure will reach a temperature that will destroy these problems.
- S. HIH 360-3 920/5







**2006 Eastern National 4-H Horse Bowl  
Round Eight**

**Begin Open Questions**

13. Q. What functions to transport nutrients, waste products and regulatory substances to the brain and the spinal cord?
- A. CSF – cerebrospinal fluid
- S. Kainer Plate 81 420-3
14. Q. The biggest mistake in most barns is that they are built for human comfort and not equine health. What is the primary fault found in these barns?
- A. Poor ventilation
- S. Evans pg 773 920/3

**Toss Up – Bonus Attached**

15. Q. (Two Part) What is the term used to describe a horse where all of the permanent incisors are in wear and what is the minimum age of the horse?
- A. Full mouth, 5 years old
- S. YLM 205-2 430/4

**Bonus Question**

16. Q. (Bonus Question) List four things that you might observe in your pregnant mare that would indicate she is starting the first stage of labor.
- A. Seeks isolation from other horses  
Stops eating  
Becomes restless – pacing, lies down and gets up repeatedly  
Tail swishing  
Sweating  
Frequent urination  
Wax on the end of the teats may fall off and milk starts to drip
- S. Lewis pg 245, Evans pg 417 510/4



**2006 Eastern National 4-H Horse Bowl  
Round Eight**

**Bonus**

21. Q. (Bonus question) List four things a farrier should observe before removing and replacing the shoes on your horse.
- A. 1. Observe your horse in motion – evaluate for lameness or interference  
2. Observe the conformation of your horse and note any conformation problems  
3. Observe the foot axis of each foot to determine geometric balance  
4. Note any deformities or abnormalities of the foot.  
5. Clean the hoof and note the position of the wear on the shoes  
6. Note the type or style of the shoe on your horse and whether it is appropriate  
7. Talk with the owner about the horse’s use and any gait problems.  
8. Discuss with the owner shoe preference and cost.
- S. YLM 321-1 900/4

**Resume Open Questions**

22. Q. When fencing horses, what is the most effective way to use an electric fence?
- A. In conjunction with another fence using the electric fence at the top of the fence to keep the horses off of the other fence.
- S. Evans pg 766 920/4
23. Q. Identify one plant that can cause cardiac glycoside poisoning.
- A. Milkweed; foxglove; oleander; yellow oleander; be-still or lucky nut tree; lily of the valley; dogbane or Indian hemp
- S. Lewis pg 337 - 339 770/4



**2006 Eastern National 4-H Horse Bowl  
Round Eight**

**Resume Open Questions**

28. Q. What is the proper name for the substance produced by the skin which coats each hair and causes it to lie flat and gives them a shine?

A. Sebum

S. Lewis pg 179 460/3

29. Q. Fresh forage that is cut, chopped and fed that same day is called what?

A. Green chop or soilage (Do not accept haylage)

S. Lewis pg 66 700/3

30. Q. It is rare that a horse is poisoned by a single mouthful of a toxic plant. Name one of the two plants that are considered to be the exception to this rule.

A. Water hemlock or yew

S. Lewis pg 301 770/4

31. Q. What is the minimum height of perimeter pasture fencing?

A. 5 feet

S. HIH 350-1, Evans pg 760 920/3

**Last Question of the Round**

32. Q. Using the proper term, what structure is being described? This structure is composed of cardiac muscle, it is the middle and thickest layer of the heart wall and is responsible for contraction of the heart.

A. Myocardium or myocardial muscle

S. DET pg. 185 440/4

## 2006 Eastern National 4-H Horse Bowl Round Nine

### One-On-One

1. C1      Q.    The frontal bone, zygomatic bone, and lacrimal bone form what anatomic structure?
- A.    Orbit
- S.    Kainer Plate 41, DET pg 247                    410/4
- 
2. C2      Q.    When feeding a pelleted or extruded feed made from the same ingredients, why would it be important to feed by weight and not by volume?
- A.    The extruded food is expanded during production resulting in air being trapped in the feed making it necessary to feed a larger volume to get the same nutrient value.
- S.    Evans pg 280, Lewis pg 92                    700/4
- 
3. C3      Q.    The equine liver will function at near optimal levels until approximately what percent of it is destroyed?
- A.    80 % (accept 70 to 80 %)
- S.    Lewis pg 308    800/4
- 
4. C4      Q.    What does a skin pliability test check for?
- A.    Dehydration
- S.    YLM 115-1    870/3





**2006 Eastern National 4-H Horse Bowl  
Round Nine**

**Begin Open Questions**

13. Q. Where would you find a “stabilizer” or “roper’s” bar?
- A. On a bit, connecting the shanks where the rein loops are attached.
- S. DET pg 67 1000/4
14. Q. What product do the apocrine tubular glands located in the dermis layer of the skin produce?
- A. Sweat
- S. Kainer plate 5 460/3

**Toss Up – Bonus Attached**

15. Q. (Two Part) If the horse has a fracture of the olecranon, what bone and joint would be involved?
- A. Ulna, elbow
- S. Kainer plate 10 410/4

**Bonus Question**

16. Q. (Bonus question) Name four advantages of barn/stall housing for horses compared to run-in shelters and pasture.
- A. Able to monitor diet Safer from horse-horse injury  
Able to control exercise  
Horses kept cleaner  
Horses readily available for owners use  
Closer observation  
Easier to medicate
- S. Evans pg 773 920/3

**2006 Eastern National 4-H Horse Bowl  
Round Nine**

**Resume Open Questions**

17. Q. You are using a hoof tester as part of a lameness evaluation of the horse's right forelimb. You consistently notice sensitivity with pressure at a specific location. What else would you do with the hoof tester to confirm this as a possible basis for your lameness diagnosis?
- A. Compare the response to the left forelimb hoof.
- S. HIH 530-3 815/5
18. Q. What structure of the hoof am I? I am very elastic and have few blood vessels or nerve endings. I am located between the lateral cartilages and absorb concussive forces from the pastern coffin bones and frog. I am wedge shaped and composed of fibrous tissue and fat.
- A. Digital cushion
- S. HIH 505-4 415/4
19. Q. What is the stage of the mare's estrous cycle that follows her estrus or heat and lasts approximately 14-15 days until she is either pregnant or reverts back to anestrus?
- A. Diestrus
- S. DET pg 81, YLM 326-2 480/3

**Toss Up – Bonus Attached**

20. Q. (Two Part) When horses lick at the areas where bot eggs are attached, what two necessary factors is the horse providing that allows the bot eggs to hatch?
- A. Friction, moisture and warmth
- S. HIH 430-3, Evans pg 635 835/4

## 2006 Eastern National 4-H Horse Bowl Round Nine

### Bonus

21. Q. (Bonus question) If you were building a run-in shelter on your farm, name five factors you would include in its design, location, and/or construction.
- A. Face away from prevailing winds  
Minimum of 20 feet deep  
In the northern half of the US face to the south to take advantage of the winter sun  
Opening at least 10 feet high  
Wide enough for all horses to exit simultaneously  
Padded center posts  
Minimum 75 - 120 sq ft per horse  
No sharp edges  
Corners designed so horses do not get trapped  
Roof slopes away from opening  
Located on high ground or graded so that there is good drainage  
Do not use metal roof – scares horses
- S. Evans pgs 772-3, Lewis pg 181                      920/3

### Resume Open Questions

22. Q. One of the advantages of open front shelters or run-in sheds is their better ventilation. How would this benefit your horse?
- A. Fewer respiratory disease problems
- S. Evans pg 772    920/3
23. Q. If you were to take the pulse of a normal healthy, physically fit horse that has just been galloping for 5 minutes would you expect the heart rate to be 100, 150 or 200 beats per minute?
- A. 200
- S. Lewis pg 206    440/4

**2006 Eastern National 4-H Horse Bowl  
Round Nine**

24. Q. Name one plant that can cause a Vitamin B1 (Thiamine) deficiency?
- A. Horsetail (snake grass, maretail, horserush) or bracken fern
- S. Lewis pg. 319-320 770/4
25. Q. In designing an equine facility, one of the primary considerations is the safety of the horses and the handlers. Design is influenced significantly by one **primary** behavioral response that the horse exhibits as a defensive measure. What is that behavior?
- A. Flight when fearful
- S. HIH 320-1 920/5

**Toss Up – Bonus Attached**

26. Q. Even though a complete feed contains all of the nutrients needed by the horse, what two dietary nutrients should your horse always have available?
- A. Water and salt
- S. Lewis pg 385 700/4

**Bonus**

27. Q. (Bonus Question) Name four things horses shown at Halter Class are judged on.
- A. Type (breed type)  
Conformation  
Quality  
Substance (muscling or condition)  
Soundness (way of going)  
Color  
Sex character
- S. DET pg 129 1010/4

**Resume Open Questions**

**2006 Eastern National 4-H Horse Bowl  
Round Nine**

28. Q. What is the proper name of the structure of the uterus which is being described? It is composed of two sheets of tissue – one longitudinal and one circular, it is the middle layer, and it is responsible for powerful contractions of the uterus at birth of the foal.
- A. Myometrium
- S. HIH 910-3 480/4
29. Q. What is the minimum distance a manure pile should be located from a well used for drinking water.
- A. A minimum of 100 feet
- S. HIH 360-2 920/4
30. Q. Which premolars are present as permanent teeth only?
- A. Wolf teeth
- S. HIH 405-1 430/4
31. Q. FSH (Follicle Stimulating Hormone) exerts its effect in stimulating spermatogenesis in the stallion by acting on what cells in the testes?
- A. Sertoli cells
- S. YLM 327-1 520/5

**Last Question of the Round**

32. Q. What plant causes the disease “trembles” in horses and “milk sickness” in people?
- A. White snakeroot
- S. Lewis pg 320 770/4







**2006 Eastern National 4-H Horse Bowl  
Round Ten**

**Begin Open Questions**

13. Q. When the horse is undergoing strenuous exercise what waste product produced by anaerobic glycolysis causes muscle fatigue?
- A. Lactic acid
- S. HIH 850-2 410/5
14. Q. A cowboy uses the derisive term “pimple” to describe a piece of English tack. What piece of tack is he referring to?
- A. The English saddle
- S. DET pg 212 1000/4

**Toss Up – Bonus Attached**

15. Q. (Two Part) Identify two different places in the horse’s skeletal structure you would find an interosseus ligament.
- A. Attachment of the radius to the ulna and the cannon bones to the splint bones
- S. Kainer Plate 14, Evans pg 158-9, DET pg 154 400/4

**Bonus Question**

16. Q. (Bonus question) What are three functions progesterone plays in the mare’s reproductive cycle?
- A. 1 – Maintains pregnancy by stimulating the uterus  
2 – Inhibits the release of LH by the pituitary gland  
3 – Changes the mare’s behavior pattern so she will show no signs of estrus
- S. HIH 910-6 510/5

## 2006 Eastern National 4-H Horse Bowl Round Ten

### Resume Open Questions

17. Q. A pad with stirrups and a cinch used for exercising the horse is called what?
- A. A pad saddle, bareback pad or exercise saddle
- S. DET pg 202 1000/4
18. Q. Why would you choose to use a rocker-toe horse shoe for a healthy young horse?
- A. A rocker-toe shoe eases the breakover of the hoof and to help prevent forging – accept either answer.
- S. HIH 525-4 900/5
19. Q. What hormone is produced in the anterior pituitary and is responsible for initiating lactation in the mare?
- A. Prolactin
- S. DET pg 221, Evans pg 127 480/4

### Toss Up – Bonus Attached

20. Q. Colic and diarrhea occur from the action of plant toxins on what two body systems in the horse?
- A. Nervous, digestive
- S. Lewis pg302 770/4

## 2006 Eastern National 4-H Horse Bowl Round Ten

### Bonus

21. Q. (Bonus question) In evaluating a site for an equine facility, the natural environment needs to be assessed. Name five natural environmental factors you would have to consider to be successful.
- A. Topography of the land – i.e. slope  
Drainage – both above and below ground  
Prevailing winds  
Solar radiation  
Precipitation (do not accept cost or any other non-environmental factor)  
Vegetation  
Soil characteristics
- S. YLM 333-1, HIH 310-1 920/4

### Resume Open Questions

22. Q. What fluid excreted by the horse is being described in the following descriptions – cloudy, thick and syrupy, and yellow to orange?
- A. Urine (also accept pus)
- S. Kainer plate 68 470/3
23. Q. What is the name of the fibro-cartilage structure that is located between the articulating surfaces of the stifle joint?
- A. Menisci or meniscus
- S. Kainer 13 410/5
24. Q. What is the proper term used to describe the use of a file or rasp to remove the sharp edges or points on the horse's cheek teeth?
- A. Floating the teeth (floated)
- S. DET pg 110, Kainer plate 48 830/3

**2006 Eastern National 4-H Horse Bowl  
Round Ten**

25. Q. What is the name of the slender outgrowth of the epidermis that performs a thermoregulatory function?
- A. Hair
- S. DET pg 128 460/3

**Toss Up – Bonus Attached**

26. Q. (Two Part) Vitamins are classified as either water or fat soluble. Which classification of vitamin – water or fat soluble – taken in excess would be more likely to be detrimental to a horse? Why?
- A. Fat soluble. Fat soluble vitamins are poorly excreted from the body as compared to water soluble, which are easily excreted. Also accept - Fat soluble vitamins are able to be stored, water soluble are not.
- S. Lewis pg 42 740/5

**Bonus**

27. Q. (Bonus question) What are you doing when you are “wringing off” the nail, what tool are you using, and why do you do it?
- A. Removing the pointed end of the nail where it exits the hoof  
Driving hammer (shoeing hammer) – the claw of the hammer  
Making the hoof safe to work with and ready to be clinched
- S. HIH 530-2, 535-6 900/5

**Resume Open Questions**

28. Q. The percentage of a horse’s trait that is due to genetics is measured by what?
- A. Heritability estimate
- S. YLM 335-2, HIH 1020-3 550/5

**2006 Eastern National 4-H Horse Bowl  
Round Ten**

29. Q. The terms “varus” and “valgus” are used to describe deviations of what structure of the foal?
- A. Deviations of the legs – more specifically the knees and hocks.
- S. HIH 525-2 810/5
30. Q. Fish are dying in the pond on your farm. Every thing looks normal in the pond. Why might the runoff from your manure pile be causing this?
- A. Runoff from a manure pile will carry organic matter found in equine feces which will serve as a nutrient source for microorganisms. That process results in decreased oxygen which will not support the fish.
- S. HIH360-2 920/5
31. Q. What is the structural, insoluble polysaccharide in carbohydrates?
- A. Cellulose
- S. Lewis pg 16 730/5

**Last Question of the Round**

32. Q. In 1985 the horse industry was valued at 15 billion dollars. Which state in the United States made the largest contribution to this total?
- A. California
- S. Evans pg 11 940/4