

Equine Science Test Nutrition and Pasture Management

1. Digestive System Matching

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|--------------------|--------------|--|
| a. mouth | _____ | Digests fiber, absorbs minerals. |
| b. esophagus | _____ | 70 feet long, digests protein, fat, and |
| c. stomach | _____ | carbohydrates. |
| d. small intestine | <u> a </u> | Food is ground and mixed with saliva. |
| e. cecum | <u> c </u> | 2-4 gallon capacity, acids break down food. |
| f. large intestine | <u> b </u> | About 5 feet long, doesn't allow reverse peristalsis. |
| | _____ | Bacteria produce enzymes for digestion, vitamins absorbed. |

2. A ration is the amount of food fed to a horse in 24 hour period.

3. **Name three things to consider about an individual horse when deciding what and how the horse should be fed.**

4. Rules of Feeding

- a. Feed little and often.
- b. Plenty of roughage.
- c. According to age, size, and work done.
- d. Make all changes gradually.
- e. Keep to a regular feeding schedule.
- f. Feed only high quality hay and grains.
- g. Clean, fresh water available at all times.
- h. Salt available free choice, preferably trace mineral.
- i. Do not work right after feeding.
- j. Be aware of each horse's individual eating habits.

5. List the six classes of nutrients.

Protein
Carbohydrates
Fats
Vitamins
Minerals
Water

6. Protein is responsible for growth, development, and repair of body tissue.
7. Lipids are another name for fats.
8. Carbohydrates provide the chief source of energy.
9. 70% of the body is water.
10. Vitamins can be water soluble or fat soluble.
11. Two minerals essential for correct bone development are calcium and phosphorus.
12. The average 1,000 lb. idle, mature horse needs _____ kcal. of energy per day.
13. COB is often known as sweet feed because it usually contains molasses as well as corn, oats, and barley which make up its initials.
14. Soybean meal is very high in protein (40-50%) and is an excellent source of amino acids and phosphorous.
15. Good, clean oats will weigh at least 36 lbs/bu.
16. Wheat bran is high in phosphorous and is a good laxative.
17. Alfalfa hay is high in what mineral? Calcium
18. Which are higher in proteins, legumes or grasses? Legumes
19. Define what a legume is and make sure you tell what element they put back into the soil.
20. Pelleted feed, if made from high quality ingredients, has the advantage of providing _____ nutrition.
21. Vitamin A contains carotene which is good for _____ and is available in green, leafy plants.

22. The Calcium : Phosphorous ratio should be balanced at about 1.5 : 1 for optimal bone development.

23. Trace minerals are essential to body functions in very small amounts.

24. Energy is measured in Kilocalories which is equal to 1000 calories.

25. An example of a roughage is hay or grass.

26. An example of a concentrate is grains or sweet feed.

27. Hays are divided into two categories, grasses and legumes.

28. Alfalfa, clover, and lezpedeza are legumes.

29. Name two grass hays.

Orchardgrass, brome grass, timothy

30. Which grain is very high in energy? Corn

31. Oats is the grain most commonly fed to horses.

32. Match the % of protein needed in the diet to the type of horse.

a. Lactating Mare	<u> </u>	16-18%
b. Idle, Mature Horse	<u> </u>	12-14%
c. Stallion or Foal	<u> </u>	18-20%
d. Horse at Hard Work	<u> b </u>	10-12%

33. Fats or lipids are a source of concentrated energy and linoleic acid.

34. If too much carbohydrate is provided in the diet, the horse will become fat.

35. Vitamin K helps in coagulating blood.

36. Vitamin helps in healing cuts and wounds.

37. Found in wheat germ oil, vitamin E aids in fertility and, in conjunction with selenium, may prevent tying up.

38. Vitamin D is available through exposure to sunlight.

39. Protein is composed of amino acids, of which lysine and **methionine** are two.
40. Fats are the source of linoleic acid which makes the coat shiny. They are a concentrated source of energy.
41. Carbohydrates are converted in the body to glucose, a simple sugar which is carried through the bloodstream to the muscles.
42. **_____ in the large intestine are necessary for carbohydrate digestion.**
43. You should provide your horse a minimum of 5-15 gallons of fresh clean water every day.
44. T/F Vitamins A, D, E, and K and can be stored in the body. True
45. The B complex vitamins may affect a horse's appetite and ability to absorb nutrients.
46. Minerals are inorganic compounds. One essential one is salt.
47. A high fat content may make food more palatable. (Yummy)
48. Hay should be cured to a safe moisture content to prevent it from becoming moldy or from spontaneous combustion.
49. Legumes fix nitrogen in the soil.
50. Oat hay is cut green without harvesting the grain.
51. A grass hay often grown with legumes, such as alfalfa or clover, is timothy.
52. Lucerne hay in Europe would be known as alfalfa in the U.S.
53. When balancing a ration, both qualitative and _____ requirements must be met.
54. Pastures should be mowed to a height of 3-4" to keep the grasses uniform and more palatable.

55. Lanes between adjoining horse pastures reduce the risk of _____ from horses fighting across the fence line.

56. Only well _____ manure should be spread on pastures.

57. Horses need shelter primarily from what element?

58. _____ pastures helps aerate the soil and break up manure clumps which exposes parasite eggs to sunlight, heat, or cold.

59. The best way to maintain optimal pastures is to practice _____ grazing.

60. _____ wire, rope or tape can be used alone as fencing or with other fencing materials to keep horses from leaning over fences.

61. _____ is not suitable horse fencing.

62. T/F Woven wire, pipe, wood, and electric fencing all make good horse fences.

63. Cows are often pastured with horses or on a rotational basis in horse pastures. Why is this good for a pasture?

64. Salt and fresh _____ must be available in your horse's pasture.

65. Name one poisonous plant.

66. Compare hand feeding and self-feeding.

67. What feeding practices should be avoided to keep your horse from getting laminitis?

Extra Credit:

Feeding horses is both a science and an art. After gaining knowledge in equine nutrition, it is wise to remember the old Arabic saying, "_____."